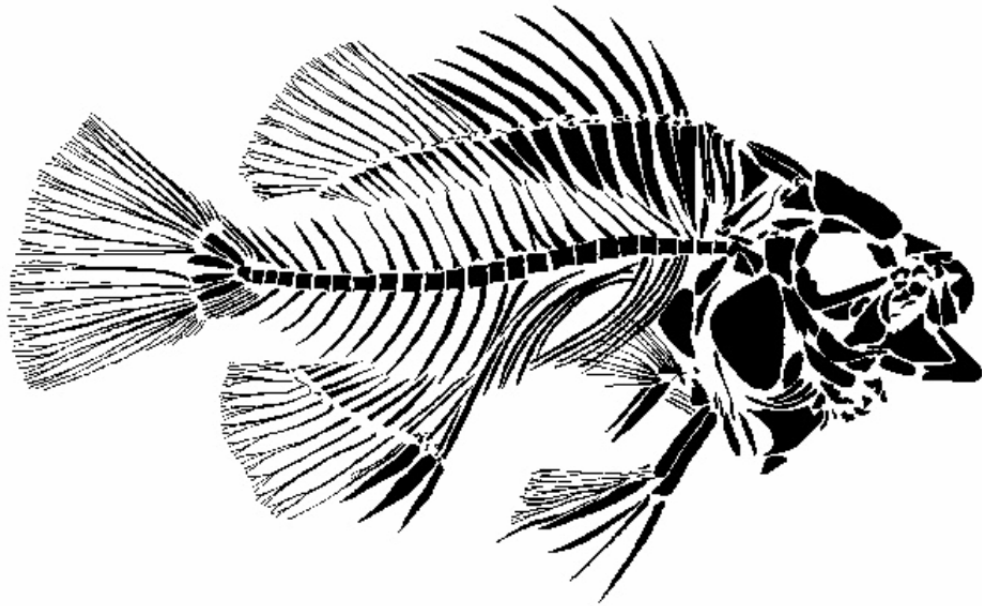


# Fossil Butte National Monument



## **WILDLAND FIRE MANAGEMENT PLAN**

**JANUARY 2005**

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# **1 INTRODUCTION**

## **1.1 Fire Management Plan Requirement**

All agencies within the Department of the Interior (DOI) with vegetation capable of sustaining wildland fire are required to prepare fire management plans. The NPS has recognized and acted on this direction in the completion of this plan satisfying the policy requirement outlined in Director's Order 18 (NPS, 1998).

## **1.2 Collaborative Planning Process**

This plan implements goals and objectives of the park's *General Management Plan*, *Statement for Management*, and *Resource Management Plan*. It was developed in a collaborative process utilizing an interdisciplinary team approach consisting of members of Fossil Butte NM, Grand Teton NP, and the Intermountain Region, NPS. Close coordination among local representatives of the Bridger-Teton NF and Kemmerer Resource Area –BLM also occurred. This plan outlines operational guidelines for implementing the described fire management program. The staff at Fossil Butte NM intends to rely heavily on the expertise and collaboration of the neighboring fire management resources and Grand Teton National Park staffs in the implementation of this plan. Additional opportunities exist to further collaboration with local, county, and state agencies in meeting the fire and resource objectives outlined herein.

## **1.3 Federal Policy Implementation**

The *Federal Wildland Fire Management Policy (1995, review 2001)* provides the overall framework for agencies to build a program consistent with stated land and resource management goals and objectives while providing for public and firefighter safety. The fuels management component of this plan follows recommendations of the *Cohesive Strategy (USFS 2000)* which established a framework to restore and maintain ecosystem health in the fire-adapted ecosystems of the west, and to protect identified communities at risk. Both it and the *Collaborative Approach 10 year Imp Plan (2002)* established a collaborative interagency community based approach to address wildland fire and fuels management issues which this plan follows.

## **1.4 NEPA/NHPA Planning Requirements**

This plan meets the requirements of the National Environmental Policy Act (NEPA), National Historic Preservation Act (NHPA), Endangered Species Act (ESA), Clean Air Act, as amended, and the Clean Water Act. A full and complete scoping process was undertaken and an associated Environmental Assessment (EA) was completed to discuss alternatives and assess the effects of the proposed action. Projects implemented under this plan will be evaluated to ensure all NEPA/NHPA requirements have been addressed. If they have not, additional NEPA/NHPA documentation will be completed.

## **1.5 Fire Management Plan Authorities**

Authority for carrying out a fire management program at Fossil Butte National Monument originates with the Organic Act of the National Park System, August 25, 1916. This Act states that the primary goal of the National Park Service is to preserve and protect the natural and cultural resources found on lands under its management in such manner as will leave them unimpaired for future generations. Related statutory authorities are the Clean Air Act, the Clean Water Act, the Endangered Species Act, the National Environmental Policy Act, the Antiquities Act and others. As enacted in Public Law 38, April 25, 1947, lands were "dedicated and set apart as a public park for the benefit and enjoyment of the people," subject to the provision of the Act of August 25, 1916 (39 Stat. 535), entitled an Act to Establish the National Park Service "...which purpose is to conserve the scenery and the natural and

historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

Service wide fire management policy is expressed in the current revisions of the Directors Orders and attendant Reference Manual for the National Park Service, and "The Wildland and Prescribed Fire Management Policy: Implementation and Reference Guide", and is incorporated herein by reference. The sites fire management objectives conform to the referenced documents.

The Environmental Assessment that accompanies this plan describes and analyzes the potential environmental effects of the proposed action and two additional alternatives. It was prepared in compliance with the requirements of the National Environmental Policy Act, the National Historical Preservation Act, and Section 7 of the Endangered Species Act. Consultation with Bureau of Reclamation, Bureau of Land Management (BLM), U.S. Fish and Wildlife Service, Wyoming Game and Fish Department Commission, Historic Preservation Office for the State of Wyoming, and the general public was conducted concurrent with public review of the Wildland Fire Management Plan and Environmental Assessment.

## **2 RELATIONSHIP TO LAND MANAGEMENT PLANNING AND FIRE POLICY**

### **2.1 NPS Management Policies**

It is the policy of the National Park Service to allow natural processes to occur to the extent practical while meeting Park unit management objectives. NPS Management Policies (1988) state "Fire is a powerful phenomenon with the potential to drastically alter the vegetative cover of any Park. Fire may contribute to or hinder the achievement of Park objectives. Park fire management programs will be designed around resource management objectives and the various management zones of the Park". Specific guidance on wildland fire is contained in Directors Orders (DO-18) and attendant Reference Manual (RM-18) for the National Park Service, and "The Wildland and Prescribed Fire Management Policy: Implementation and Reference Guide" (1998).

In a memo from the Federal Fire and Aviation Directors signed January 6, 2003 the National Park Service adopted the "Interagency Standards for Fire and Fire Aviation Operations 2003". The current Interagency Standards for Fire and Aviation Operations will be used for the fire season. The purpose of the document (also known as the Red Book) is to, "state, reference, or supplement" agency fire and fire aviation management policy. It meets specific direction in the Federal Wildland Fire Management Policy reviews of 1995 and 2001 particularly related to improvement of the safety, effectiveness and efficiency of interagency fire and fire aviation operations. Specifically for the National Park Service, the Red Book supplements RM-18 Wildland Fire Management and RM-60 Aviation, and is to be used as agency policy guidance.

### **2.2 Enabling Legislation & Purpose of NPS Unit**

Fossil Butte National Monument, comprising 8,198 acres, is located about 10 miles west of Kemmerer, Wyoming in Lincoln County. The monument was established in 1972 to: "preserve for the benefit and enjoyment of present and future generations outstanding paleontological sites and related geologic phenomena, and to provide for the display and interpretation of scientific specimens (86 STAT 1069)...to consist of lands, waters and interest therein...." As a unit of the National Park system, the Monument and its management is also affected by related legislation providing for the preservation of the natural setting, including ecological and archeological aspects (General Management Plan 1980).

### **2.3 General Management Plan**

Management objectives for the Monument as identified in the park General Management Plan (1980) include:

- limit extraction of the paleontological resource;
- obtain a representative collection of fossil specimens;
- protect and preserve within the constraints of the enabling legislation all elements of the natural and historic resources of Fossil Butte National Monument;
- inventory and evaluation of cultural resources;
- maximize alternative energy sources;
- develop administrative and visitor use facilities;
- and develop interpretive programs.

## 2.4 Resource Management Plan

Resource management objectives as defined in the park Resource Management Plan (1985) are as follows:

- management of the fossil resources;
- development of a wildfire management program;
- erosion control; livestock grazing management;
- management of museum collections;
- boundary control;
- collection of baseline natural resource data;
- water resources management;
- vegetation management, as related to grazing; exotic plants identification and control;
- air quality inventory.

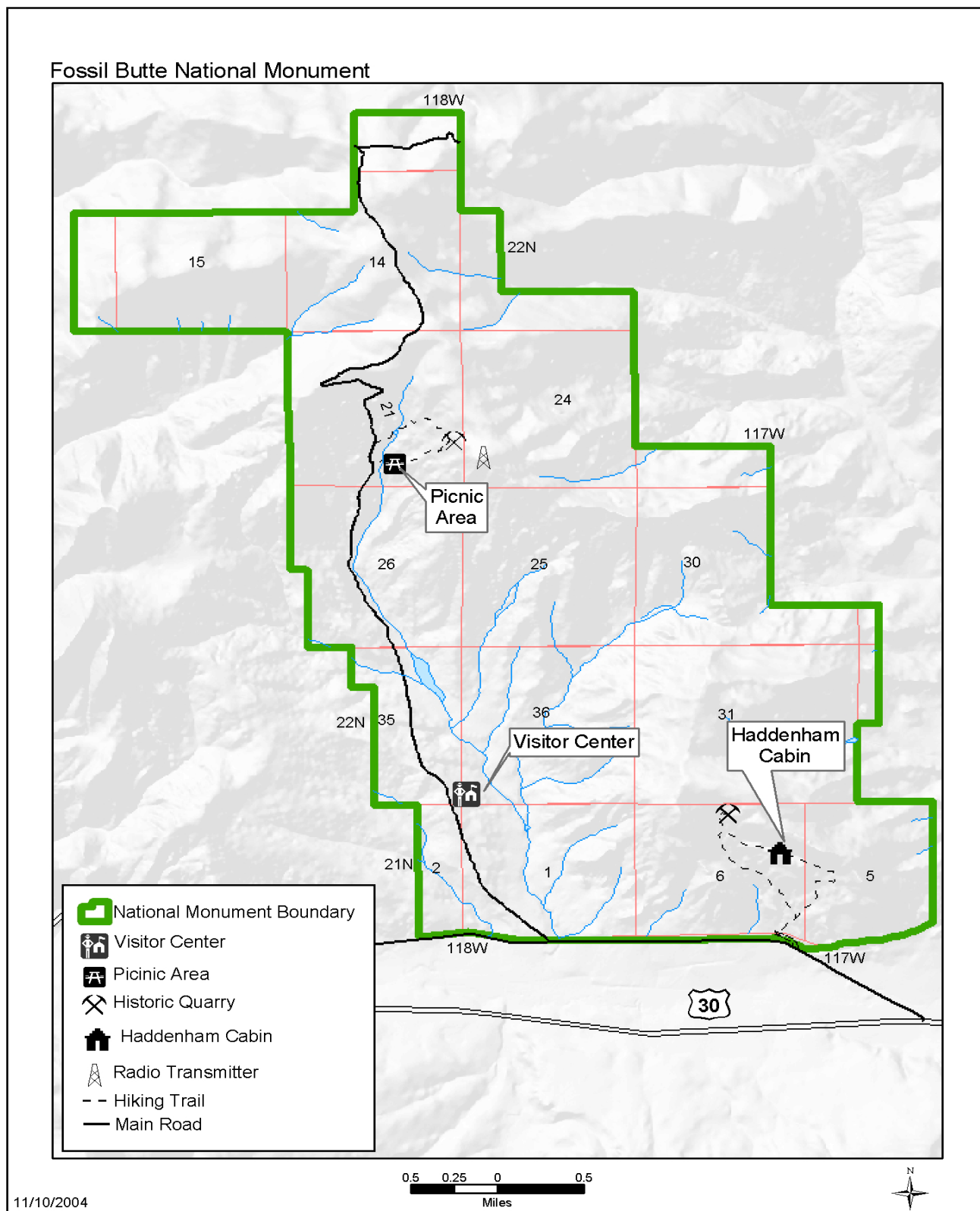
Additionally, a draft Resource Management Plan (RMP) was prepared in 1998 “to serve the superintendent as a manual for management activities that will preserve the natural environment (including restoration of the resource similar to pre-grazing conditions) or achieve an environmental status that complies with Park Service standards.” These resource management objectives were stated in the draft RMP:

- restore the stability and habitat values of Chicken Creek,
- encourage and foster research to support park and resource management.

Further discussion identifies an “ecosystem management” approach to managing the resources of Fossil Butte NM. “To manage the resources of FOBU, the NPS must identify what the resources are, their location, their relative significance, their sensitivities and management needs. Priorities for resources management include employee and visitor safety, collection of baseline resource inventories and establishing monitoring programs, identification, protection and reestablishment of natural processes.” Fire Management is identified in the plan as a *major* resource issue.

## 2.5 Support to the General and Resource Management Plans

The Fire Management Plan will describe the fire management unit and further define fire management objectives tied to the parks goals and objectives as outlined in the previously cited documents. Many of the park’s goals and objectives can be affected both positively and negatively by the role of fire on Monument lands. The FMP will outline 1) acceptable fire management strategies for wildland fire within Monument lands and 2) those areas where resource protection/enhancement objectives may be met utilizing appropriate fuels reduction techniques (prescribed fire and mechanical fuels manipulation). Further it describes a cooperative approach to wildland fire management realizing that fire does not recognize administrative boundaries and significant program efficiencies will be realized when a cooperative interagency program of fire management is developed with the adjacent federal, state, county, and local resources.



**Figure 1: Fossil Butte National Monument Location Map**



## 3 FIRE MANAGEMENT STRATEGIES

### 3.1 General Management Considerations

Wildland fire in the Monument will be managed to enhance resource protection, diminish risk and consequences of severe wildland fires and, to the extent possible, increase the health of naturally occurring vegetative communities and watersheds.

To these ends the Monument will employ the following goals:

1. Improve prevention and fire management capabilities through interagency agreements and community assistance
2. Reduce hazardous fuels accumulations at monument sites and across agency boundaries
3. Meet resource objectives through the careful application of prescribed fire

A community-based approach to wildland fire issues will involve close collaboration and cooperation with neighboring agencies that have a vested interest in areas of wildland fire issues.

### 3.2 Fire Management Goals

The following wildland fire management program goals support the Monuments General and Resource Management Plans and objectives as well as national and NPS policy and direction.

- 1. Ensure that safety to firefighters and the public is the highest priority on every fire management action.*
- 2. Manage fire cooperatively with adjacent land management agencies and private landowners.*
- 3. Manage fire as a process through the careful application of prescribed fire, while meeting resource protection goals and resource management objectives.*
- 4. Suppress all wildland fires regardless of ignition source to protect the public, private property, natural, cultural, and historic resources of the unit, utilizing tactics commensurate with values at risk.*
- 5. Apply prescribed fire and/or mechanical fuel reduction practices to reduce fuel accumulations that threaten park resources and neighboring lands.*

### 3.3 Fire Management Options

The following options (and their definitions) describe the full range of management tools available to Fossil Butte National Monument. Each tool is a valuable option in the management of a sound fire program.

The fire management program at Fossil Butte NM will focus on selecting the appropriate management response for all wildland fire ignitions and the careful application of prescribed fire and mechanical fuels reduction to restore habitat and reduce risk to park resources. Inherent in this program is the recognition of the size and capabilities of park staff, response times from cooperating agencies, and the nature and scale of likely wildland fire scenarios. At this time the practicality of wildland fire use actions is minimal due to differing agency goals and objectives, resources at risk, land ownership, and lack of practical ability to manage incidents at the initial stages.

- **Wildland fire suppression** – *an appropriate management response to wildland fire that results in curtailment of fire spread and eliminates all identified threats from the particular fire.*

All wildland fire suppression activities provide for firefighter and public safety as the highest consideration, but minimize loss of resource values, economic expenditures, and/or the use of critical firefighting resources. Equally as critical as the loss of resource values to fire are the potentially damaging effects of fire suppression activities. Consideration will be given to resources at risk and effects of management actions and may result in suppression actions that lead to larger fire size, (i.e. controlling a fire along a nearby roadway vs. direct line construction through wildland fuels) while still meeting overall goals of fire containment. This strategy mirrors that of adjacent federal land management agencies (DOI-BLM and USFS) and allows for consistent application of existing federal policies regardless of responding resources.

The goal of wildland fire suppression actions is to safely suppress unwanted wildland fires at minimum cost consistent with land and resource management objectives and fire management direction.

All unwanted wildland fires will be suppressed using an appropriate management response. The correct response to specific wildland fires will be determined through evaluation of public and firefighter safety, fire behavior, values at risk, potential suppression damage, and the availability of fire management resources. Close coordination with local, county, and federal cooperating agencies (South Lincoln County Fire District, Bridger-Teton NF, BLM-Rock Springs District/Kemmerer Resource Area) will be essential in the safe and efficient response to any wildland fires on or in the vicinity of Fossil Butte NM. Under existing statewide interagency agreements Fossil Butte National Monument may take immediate, initial attack suppression action on fires within one mile of the Park boundary. These decisions will be dependent upon identified risks and are reciprocal in nature.

Management responses may vary from fire to fire and sometimes along the perimeter of a fire. Response options range from monitoring without on-the-ground disturbance to aggressive suppression actions on all perimeters of the fire.

- **Prescribed fire** – *any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements must be met prior to ignition. This term replaces management ignited prescribed fire.*

Prescribed fire is used as a management tool to achieve specific resource objectives or manage hazardous fuels. NPS units are required in DO-18 to “reduce, to the extent possible, hazardous fuels in the wildland urban interface.” In many cases similar resource management objectives will be in place on large tracts of lands inside and outside Monument lands. This plan will emphasize cooperation with adjacent land managers, when management objectives coincide, on the implementation of landscape scale fuels and vegetation management projects. The use of prescribed fire as a management tool is integral to meeting the objectives of the Resource Management Plan relating to restoration of the Chicken Creek drainage and the adoption of an ecosystem management approach to managing the resources of FOBU.

Prescribed fire will be used to return fire to the ecosystem and to maintain and/or restore plant communities, cycle nutrients, reduce or remove exotic plants, maintain or improve wildlife habitat, reduce hazardous fuel accumulations, reduce future fire suppression costs, and for other resource management objectives.

The BLM Rock Springs District has used prescribed fire locally as a factor in maintaining natural ecosystems; and to protect, enhance, and maintain natural fuel conditions. These and other specific objectives are defined in their Resource Management Plan for the Kemmerer area (DOI-BLM, 1986). Other planning documents direct the BLM to coordinate fire management activities near Fossil Butte NM with the NPS (DOI-BLM, 1998). Joint opportunities to conduct prescribed fire along administrative boundaries will be sought with the BLM where similar resource objectives are shared and unit planning and operational considerations are favorable. Planning will be coordinated

between agencies to ensure policy requirements are followed and appropriate NEPA compliance is met prior to project initiation. At a minimum a prescribed fire plan will be developed outlining the critical elements described in each agency's manual system. Prescribed fire is used to contribute to cost-efficient fire protection and sustainability of ecosystem values; these are shared across agency boundaries. For the foreseeable future, the prescribed fire program under this Plan will be aimed at restoring fire as a natural ecological process in lieu of wildland fire use, and reducing hazardous fuels concentrations.

- **Mechanical fuel reduction** – *treatment of wildland fuels to reduce fire behavior and risk, and may include cutting, thinning, mowing, chipping, lopping, limbing or like applications.*

These treatments may be multi-seasonal, stand alone, or used as a pre-treatment for or in conjunction with the application of prescribed fire. An interdisciplinary approach will be utilized to identify resources at risk and design treatment objectives and application methods that meet risk reduction needs and are consistent with overall management objectives.

### 3.4 Wildland Fire Management Strategies by Fire Management Unit

The park will be managed as a single contiguous Fire Management Unit (FMU). FMU's are typically delineated along administrative and natural barriers representing locations suitable for defensive fire tactics and aligned in such a way as to make them readily apparent to responding fire personnel. An FMU is defined as "any land management area definable by objectives, management constraints, topographical features, access, values-to-be-protected, political boundaries, fuel types, or major fire regime groups, etc. that sets it apart from the management characteristics of an adjacent unit." (RM-18, Ch. 4, p.5). FMU's may have dominant management objectives and associated strategies. Guidance suggests keeping the number of FMU's to a minimum.

Considerations in selecting one FMU for FOBU were administrative boundaries, fuel types, potential fire size in relation to unit size, adjacent land ownership, and likely strategic and tactical options. Due to fire hazards, the relatively small size of the park, the fuel types, associated rates of fire spread, historic fire duration, park staffing, and budget limitations, this plan utilizes a combination of appropriate suppression responses, prescribed fire and mechanical fuel reduction as management tools to meet the defined fire program goals and objectives.

The appropriate management response will be determined and utilized for all wildland fires occurring in the park. This response will be suppression oriented, yet incorporate considerations beyond simply minimizing acres burned. First among all considerations will be to minimize risk to both the public and assigned fire management personnel. Selected strategies and tactics will always consider the risk associated with operational assignments. Prescribed fires will be implemented when it has been determined that they can successfully accomplish desired resource objectives. Mechanical fuel reduction will be utilized as a tool for the protection of identified resources at risk (capital improvements, visitor use areas, rare or significant natural/cultural/paleontological resources, etc.).

### 3.4.1 FMU Characteristics

#### 3.4.1.1 VEGETATION

The draft Vegetation Management Plan (Kyte 2001) and the Grazing Impact Study (Dorn et al., 1984) provide considerable detail concerning the current and historic vegetation at Fossil Butte National Monument; the reader is directed to these sources for greater detail. Much of the information below is generalized from the two documents; the publications cited in those documents will not be re-cited below.

Approximately 530 taxa, 68 families, and 257 genera of plants are documented by specimen records in the monument. This is regarded as around 90% of the species that probably occur in Fossil Butte NM.

The Wyoming Natural Diversity Database has identified eight plants that they consider “species of special concern.” These include Sodaville milkvetch (*Astragalus lentiginosus* var. *salinus*), Martin ceanothus (*Ceanothus martini*), western dodder (*Cuscuta occidentalis*), entire-leaved pepperweed (*Lepidium integrifolium* var. *integrifolium*), Wasatch biscuitroot (*Lomatium bicolor* var. *bicolor*), ternate desert-parsley (*Lomatium triternatum* var. *anomalum*), Payson beardtongue (*Penstemon paysoniorum*), and tufted twinpod (*Physaria condensate*). Further discussion of these species can be found in Appendix A.

Over the long term, using fire to maintain components of the monument’s vegetation in various seral stages (as happened naturally when wildland fire burned uncontrolled) will assure there is always adequate habitat for a wide variety of plant species.

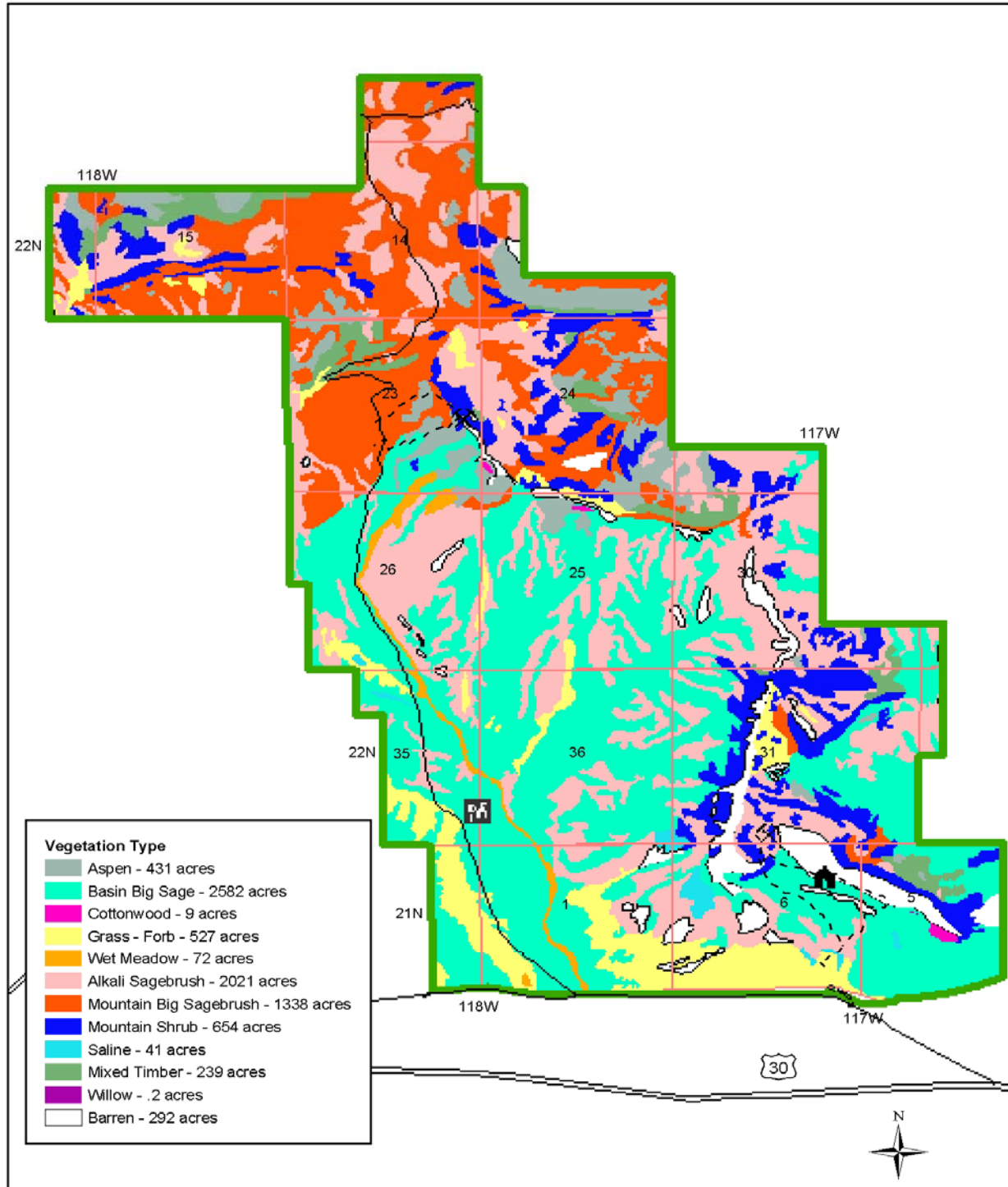
The largest vegetation types in the monument are dominated by sagebrush (Figure 3): basin big sagebrush communities (2,573 acres), mountain big sagebrush communities (1,338 acres), and alkali sagebrush (2,031 acres). Both basin and mountain big sagebrush communities have a short fire return interval (see Historic Role of Fire Sec 3.4.4 following), while the alkali sagebrush fire return interval appears to be variable.

The mixed timber type (236 acres) is mainly limber pine which also has a short fire return interval for low intensity fire (FEIS). Most of the lands occupied by these vegetation types have been without fire for nearly an entire interval. The aspen communities (427 acres) are generally at the far extent of their fire return intervals. Some of these communities may have missed a fire return interval.

Dorn et al., (1984) suggests that on a broad scale, the vegetation at Fossil Butte NM looked, in 1984, much like it would have in pre- domestic grazing periods. They suggest that livestock and other disturbances have changed mainly the distribution and abundance of grasses and forbs. The report notes that evidence of past fires is widespread in the monument and that any increase in sagebrush is probably due to an absence of fire since European settlement.

The draft Vegetation Management Plan (Kyte 2001) states that 5 species on the Wyoming noxious weed list are relatively abundant in the monument. These include Canada thistle, musk thistle, henbane, spotted knapweed, and houndstongue. Most park management documents include direction to reduce the occurrence and dominance of nonnative species. Kyte (2001) recommends a management scheme that includes survey (inventory), monitoring, and

# Fossil Butte National Monument



Original Vegetation data developed  
by R.D. Dorn - 27 July 1984.  
Updated and modified by  
George Jones 1992.

## Vegetation Map

0.5 0.25 0 0.5  
Miles

11/10/2004

**Figure 2: Fossil Butte National Monument Vegetation Map**

restoration of areas dominated by nonnative species. Restoration tools identified by Kyte (2001) include hand-pulling, biological agents, mowing and other mechanical treatments, and chemical treatments. Such restoration is beyond the scope of the Fire Management Plan.

### **3.4.1.2 GEOLOGY AND SOILS**

The major geologic formations of interest at Fossil Butte NM are the Wasatch and Green River formations. The Wasatch formation displays the red, purple, and yellow badlands. The Green River formation, with buff to white colors, is situated above the Wasatch formation and contains the main fossil fish deposits. The outcrops of these formations are very sparsely vegetated.

The Natural Resource Conservation Service (formerly Soil Conservation Service) has completed an "Order 3" survey of Fossil Butte National Monument (Glenn 1974, cited in Kyte 2001). An Order 3 soil survey identifies soil series. The major soil series are described in Appendix A.

The report notes that all of these series are used for rangeland, recreation, and wildlife habitat. The erosion hazard for each soil complex that was mapped is discussed in the soil report. Most soils are considered to have a moderate to severe erosion hazard.

There is concern about erosion, particularly in Chicken Creek. Monitoring of Chicken Creek began in 1986 and in 1994 the park began planting willows along the drainage. Several structures to retard the rate of erosion were constructed at various points along Chicken Creek. Stock pond construction also contributed to the erosion of Chicken Creek. The stock ponds were constructed, and their dams breached prior to establishment of the monument. The dams have all been removed.

Slumping has occurred in many locations scattered throughout the monument. Slumping occurs when clay soils become saturated or the forces of gravity cause weak strata to fail. The Resource Management Plan describes the slumping as a natural phenomenon and not of management concern. Cliff areas containing fossils are subject to wind and water erosion and freeze/thaw mechanisms; these also are natural processes.

Wildland fire has various effects on soil properties. Variables that influence these effects include: fire severity (related to the downward heat pulse), residence time of the flaming front, soil moisture, and the amount of organic matter. The direct effects of fire on soil properties may include changes in soil chemistry (e.g., loss of nitrogen), reduction in porosity, and consumption of organic matter. Indirect effects may include an increase in soil temperature and erosion after vegetation layers are removed. Because fuel loading is light with shrub fuel types in the monument, fires in these fuel types have a short residence time and generate only a small downward heat pulse. Fires in the limber pine community should also have a small downward heat pulse since the primary carrier of fire would be grasses and shrubs. Fires within the aspen community would heat the soil somewhat more in localized areas since there is more dead and down woody material.

### **3.4.1.3 AIR QUALITY**

Fossil Butte NM is classified as a federal Class II Air Quality area. A Class II designation defines the maximum allowable increase in concentrations of pollutants over baseline concentrations of sulfur dioxide and particulate matter, as specified in the 1963 Clean Air Act (42 U.S.C. 7401 *et seq.*). Further, the Clean Air Act provides that the federal land manager has an affirmative responsibility to protect air quality related values (including visibility, plants, animals, soils, water quality, cultural resources, and visitor health) from adverse pollution impacts.

There are several fossil fuels activities near Fossil Butte National Monument. The Pacificorp Viva Naughton Power plant and the Pittsburgh and Midway open pit coal mine are within 10 miles of the monument. Williams Field Service has a natural gas processing facility approximately 25 miles downwind of Fossil Butte NM. British Petroleum and Chevron/Texaco operate sulfur loadout terminals approximately 9 miles south of Kemmerer, Wyoming, on U.S. Highway 189. Exxon

operates a large gas processing plant approximately 35 miles east of the monument. Additional energy developments are more distant from the monument. Mobile sources of pollution in the area include railroads, motor vehicles and ranch equipment.

No air quality monitoring has been conducted at Fossil Butte NM. Wet deposition monitoring stations are located at Murphy Ridge, Utah (60 km southwest), and Pinedale, Wyoming (130 km northeast). Dry deposition is also collected at Pinedale. Ozone monitoring stations are located near Logan, Utah.

Based on available information, there is no indication that Class II air quality standards are violated at Fossil Butte National Monument.

#### **3.4.1.4 WATER RESOURCES**

The water resources of Fossil Butte National Monument consist of seeps and springs, small streams supplied by springs, and ephemeral ponds and streams that carry snowmelt and precipitation runoff. Most of the springs and seeps originate along the base of the Green River formation. Since the recharge area for these springs and seeps is quite small, some may stop flowing during drought periods. Flows in streams dependent on snowmelt or precipitation vary within the year and among years, depending on the amount and timing of precipitation. Beaver ponds, slump ponds, and springs serve as watering areas for wildlife and breeding areas for beaver, amphibians, and a few shorebirds and waterfowl. The Resource Management Plan indicates that accurate documentation of all spring locations, spring and stream yields and water chemistry does not exist. Kyte (2001) provides considerably more detail on watersheds, streams, and springs.

The monument uses Spring #2 for the park water supply. The spring is situated north of the picnic area; water is collected and piped to the picnic area, monument headquarters, and other facilities.

The monument's enabling legislation provides that water excess to the monument's needs may be made available to users outside the monument. Although water needs of the park have not been quantified, surface water from one spring is piped to a location outside the boundary for livestock use.

#### **3.4.1.5 WETLANDS**

Depressions formed by land slumping are common. Some of these catch runoff water and are wet only intermittently; others are fed by springs and seeps and hold water throughout much of the year. Some of these support wetland-type vegetation such as cattails and sedges. These range from less than a half acre to perhaps as large as two acres. Most are located north and east of the picnic area.

A few other small areas in the vicinity of seeps and springs that arise along the contact between the Green River and Wasatch formations, collectively comprising two to three acres, may also qualify as wetlands. These areas have sub-irrigated, mottled soils and support obligate wetland species of vegetation.

#### 3.4.1.6 WILDLIFE

Fossil Butte N.M. contains a variety of wildlife typical of the high plains and Rocky Mountain area. Mammals frequenting the area include elk, moose, mule deer, coyote, beaver, muskrat, cottontail, jackrabbit, and several rodents. Birds include a suite of passerines, waterfowl, sage grouse, woodpeckers, and raptors. An increasing number of elk have been observed in the monument during past winters. In 2002, over 350 head were present by October.

The U.S. Fish and Wildlife Service also provided a list of migratory bird species of management concern in Wyoming; it is attached in Appendix A. Two wildlife species of elevated concern at Fossil Butte NM are pygmy rabbits (*Brachylagus idahoensis*) and sage grouse (*Centrocercus urophasianus*). While these species are not included on State or Federal endangered species lists, apparent population declines and/or perceived habitat degradation on a range-wide basis have prompted expressions of concern by various individuals and agencies.

#### 3.4.1.7 CULTURAL RESOURCES

No cultural landscapes have been identified at Fossil Butte N.M. If cultural landscapes that might be affected by wildland or prescribed fire are identified in the future, those landscapes will be appropriately protected, and provisions for their protection would be added to the Fire Management Plan.

Ethnographic resources have not been identified at Fossil Butte N.M. No traditional cultural properties have been identified. Regional Tribal governments have been contacted during the scoping process and will be included in the review of this EA. If ethnographic resources that might be affected by wildland, prescribed fire, or manual fuel reduction projects are identified during this review, those resources will be appropriately protected.

**Archeological Resources:** Cultural material from the Early or Paleo-Indian Period (12,000 – 6,500 B.C.) occurs on the surface throughout the region. The majority of regional archeological resources are surface finds and sites representing the Middle Archaic and Late Archaic Periods (2,700 B.C. – A.D. 500). Most of the sites are small, single-component remains of the Period.

Some finds from the Late Prehistoric Period (A.D. 500 – 1800) have also been made near Fossil Butte National Monument. Within the monument, isolated surface archeological materials from the Late Prehistoric and Historic Periods appear to represent short-term use.

A comprehensive survey of the park has not been completed; most existing surveys were done in support of park projects. Twelve surveys covering approximately 280 acres are on record at Fossil Butte NM. Twelve archeological sites were documented in those surveys. These sites have Archaic, Late Prehistoric, and/or Historic components. Four sites were determined to be not eligible for the National Register of Historic Places in consultation with the Wyoming State Historic Preservation Office; the others have not been evaluated for eligibility to include them on the National Register of Historic Places. No archeological sites have been nominated to the National Register.

**Historic Structures:** Only one National Register eligible historic structure is known in the monument. The Haddenham Cabin, a small wooden A-frame structure constructed circa 1918, was a temporary shelter used by early fossil collectors David Haddenham and his grandson. The Haddenham Cabin was listed on the National Register of Historic Places on December 23, 2003. The presence of several fossil fish quarrying materials may prompt some future consideration of nomination of a Historic District associated with the Haddenham Cabin.

#### **3.4.1.8 PALEONTOLOGICAL RESOURCES**

The monument was established in 1972 specifically to preserve outstanding paleontological sites and related geological phenomena. Two geologic formations at Fossil Butte National Monument contain significant fossil remains: the Green River Formation with its buff colored buttes and the Wasatch Formation of bright red-banded badlands. The significance of the two formations is the completeness of the fossil record for this period of geologic time. The greatest concentration of fossils is found in the middle unit of the Green River Formation. The Wasatch Formation contains some of the earliest Eocene mammals in North America.

Fossil quarrying began about 1881 and continued until establishment of the monument in 1972. Erosion, theft, and vandalism contribute to the continued loss of fossil resources.

The fossil-bearing areas are characterized by steep slopes and sparse to no vegetation. Where vegetation exists it is of a nature (e.g., cushion plants) and density that will generally not carry fire.

#### **3.4.1.9 REAL PROPERTY**

Primary resources at risk are the agency developments at the Visitor Center and Maintenance administrative site including a shop/warehouse and a seasonal housing unit. Additionally improvements such as picnic tables, vault toilets, and interpretive signage/displays are located at the picnic area and Historic Quarry and Fossil Lake trails.

Various portions of the park boundary and water source are delineated by wooden fences and a radio transmission tower is located on Cundick Ridge.

### **3.4.2 Fire Management Objectives**

Measurable objectives have been developed which support the program goals listed above.

- Ensure all wildland fire and prescribed fire operations sustain no injuries to members of the public and firefighters. (Supports Goal #1, #4)
- Contain 95% of unwanted wildland fires during the initial action or within the first operational period. (Supports Goal #1, #4)
- Complete and update annually cooperative fire management agreements with the following agencies/units: (Supports Goal #2, #4)
  - Bureau of Land Management –Rock Springs District, Kemmerer Resource Area,*
  - Bridger-Teton National Forest – Kemmerer Ranger District, West Zone Fire Staff,*
  - South Lincoln County Fire District (Wyoming State Dept of Forestry)*
  - Grand Teton National Park*
- Utilize minimum impact suppression techniques and rehabilitate disturbed areas to protect natural, cultural, and scenic resources (with particular attention paid to the monuments paleontological resources) from adverse impacts attributable to fire management activities (Supports Goal #3, #4).
- Engender understanding among the public, interagency cooperators, park staff and firefighters about the role of fire in the ecosystem, fuels management program needs, and the impacts of fire suppression on sensitive park resources. (Supports Goal #2, #3, #4, #5)
- Ensure that a resource advisor is present on all major suppression actions (any fires that remain uncontrolled after the first operational period) (Supports Goal #3, #4)
- Evaluate park resources at risk from fuels buildup and reduce fuels at high value/high risk sites within 5 years. (Supports Goal #1, #3, #5)

- Integrate Monument fire education and prevention efforts with those of the adjacent agencies, coordinating educational messages and use restrictions and/or public closures. (Supports Goal #1, #2, #4)
- Monitor, evaluate, and report on the effects of fire (and non-fire) treatments on biotic systems, air and water quality, and cultural resources and quantify the overall effectiveness of these activities to improve the program, with particular emphasis to the following resources (Supports Goal #3, #4, #5)
  - *Sagebrush obligate mammal and bird species (sage grouse, pygmy rabbits, sage sparrow, etc.)*
  - *Invasive, non-native plant species (spotted knapweed, henbane, houndstongue, various thistles etc.)*
  - *Rare or sensitive plant species (tufted twinpod, entire-leaved pepperweed)*
  - *Winter range health for large ungulates (elk, deer, moose).*

### 3.4.3 Management Considerations

The primary purpose in the establishment of the Monument in 1972 was the preservation of “outstanding paleontological sites and related geological phenomena...” (Public Law 92-537, Enabling Legislation). Consideration of the long-term protection of these resources is paramount in any management decision. Potential direct effects from any wildland fire need to be weighed against those of any fire management activities such as suppression tactics, fuel reduction projects, or prescribed fire unit preparation. In many cases the detrimental effects of these actions are greater than those of a typical wildland fire, especially given the sparse vegetation near paleontological sites and geological phenomena.

Fires in light fuels burning under windy conditions are usually short duration events. Very often such fires are of low to moderate intensity. Such fires can generate 600°C temperatures in the soil surface but the effect of fire on subsurface soil temperature is negligible (Gerimino, M.S. Seefeldt, K. Dictristina, and R. Baum, 2004). Although very few fossils are exposed at the surface where fuels are present, those that do occur on the surface could be cracked or discolored by fire. However, fossils lying more than a centimeter or two below the surface would not be expected to incur significant damage. Nearly all of the fossils exposed at the surface at Fossil Butte National Monument occur on barren sites that support little vegetation. Exposed fossils occur in areas dominated by talus, or are exposed in the fact of outcrops of bedrock that will not support fire.

Considerations for sensitive resources and mitigations actions can be found in Chapter 10 – Protection of Sensitive Resources.

### 3.4.4 Historic Role of Fire

Prior studies of the Fossil Butte indicate a high likelihood that the sagebrush steppe ecosystem currently found throughout the area has been in place for the past 7,000-10,000 years (Butler, 1976.). Additionally, evidence suggests that the period between 5,000 – 200 years ago saw a landscape of open sagebrush-grassland with a modest number of grazing and browsing animals. Grazing pressure was postulated to be fairly light, esp. in comparison to the Great Plains to the east, which supported many more bison.

On Fossil Butte NM, soil depth, texture, and moisture availability are primary controlling factors for the distribution of vegetation types (Dorn, et al. 1984). Shady north facing slopes support Douglas fir and limber pine forests. Moist, sheltered areas have aspen stands. Mountain big sagebrush occurs primarily above 7200 ft elevation on deep loamy soils. Thin rocky soils and ridges exposed to strong winds generally have only a sparse cover of grasses and low, cushion like forbs. Deeper soils below approximately 7200 ft elevation in the southern end of the monument feature basin big sagebrush. Antelope bitterbrush exhibits a significant amount of canopy coverage in some stands of mountain big

sagebrush. Ridges and gradual slopes with deeper clay soils usually support stands of low sagebrush throughout the monument.

All of the vegetation types with sufficient fuel accumulations are adapted to periodic fires at variable intervals and severities. Moderate and low severity fires were usually small, and spread through the fine grass and litter fuels beneath forests and brushlands. These fires created and maintained a discontinuous patchwork of seral stages and fuel accumulations. Landscape-scale severe or stand replacing fires occurred less frequently, during unusually dry and/or windy weather events.

It can be assumed from current vegetation stand characteristics that fires were present on the monument land prior to settlement. Father DeSmet traveled through the region during the fur trappers era and noted that the sagebrush areas were not burned by the Indians like the prairies were farther east (DeSmet, 1843).

Since settlement, fire suppression, livestock grazing, ungulate use, and fuel barriers like roads have changed the role of fire on the Fossil Butte National Monument. These changes have contributed towards alterations in the vegetative composition and structure. In general, plant communities are in later seral stages, and the diverse patchwork of diverse age classes and fuels accumulations has been homogenized. Sagebrush communities are probably more different today than pre-settlement plant communities, because sagebrush is adapted to burn more frequently than aspen or conifers. Conifer areas have denser concentrations of seedlings and young trees that would have been removed by periodic fires. Aspen forests that have been protected from fire frequently have older trees, which are more vulnerable to diseases and insects than stands of aspen subjected to historic fire regimes.

Written records for fire occurrence within the park only date to the mid-1970's and records for the surrounding area are scanty. Dorn et al. (1984) noted that all timber stand and many sagebrush stands showed evidence of past fire. The last fire of any significance that occurred in the monument was in 1981 and burned approximately 260 acres in timber, sagebrush and mountain shrub communities.

Since the fire history of the area is lacking, fire return intervals for the monument were based on the literature. The Fire Effects Information System (FEIS) indicates the following fire return intervals by community type: aspen – 80 to 100 years; limber pine – 8-21 years for surface fires, 100 to 200 years for stand replacement fires; mountain shrub – 20 to 70 years; mountain big sagebrush – 10 to 30 years; and basin big sagebrush – 15 to 70 years. Kyte (2001) determined the years since the last fire for several mixed conifer and sagebrush stands based on information given by Dorn et al. (1984). In mixed conifer the years since last fire ranged from 34 to 83 years; half of the most recent fires were more than 60 years ago. The time since last fire in four mountain big sagebrush stands was a little over 60 years. The time since last fire in three basin big sagebrush stands was 60-70 years.

Many aspen communities exhibit considerable down and dead material, a suggestion that these communities too have not experienced fire in many years. Fire in many vegetation communities, then, has been absent for periods near the far extent of normal fire return intervals.

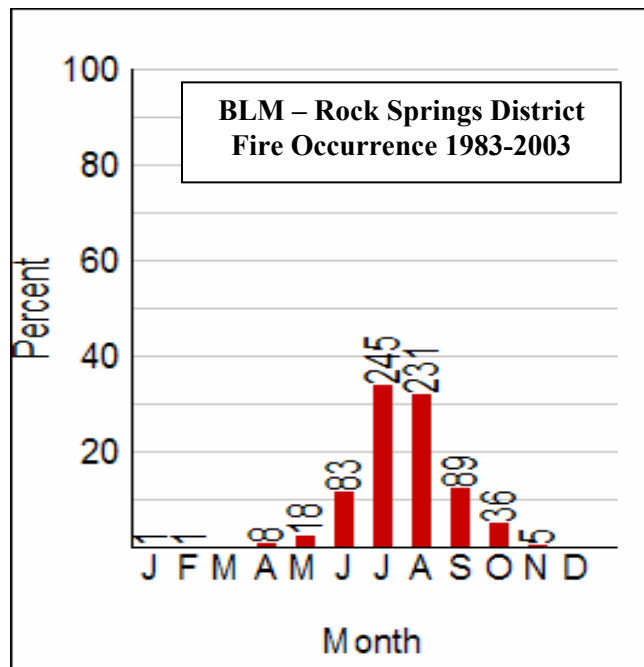
### 3.4.5 Wildland Fire Situation

#### 3.4.5.1 Historic Weather Analysis

Fuel moistures are at their maximums for live woody and herbaceous plants during the spring when plants are actively growing. Dead fuel moistures in large size classes reach minimum values during the late summer and fall months. Indicators of fire danger as computed through the National Fire Danger Rating System (NFDRS) show that fire danger is highest when fuel moistures are lowest and when plants are not actively growing. No established fire weather stations exist in the monument. An automated weather station has been installed at monument headquarters, but records are incomplete and not of a significant period of record to provide a basis for meaningful analysis. Fire weather observations are archived at various locations in SW Wyoming by the Rock Springs District-BLM (Muddy Creek, NWS Station #481801, Snow Springs Creek NWS Station #481904, and Anderson Ridge NWS Station #481905) and the Big Piney Ranger District-Bridger-Teton NF (Snider Basin NWS Station #481306). Muddy Creek is both closer geographically and sited in more representative fuels than is Snider Basin. Both Snider Basin and Muddy Creek weather analyses are utilized by their stations respective owners in determining or adjusting local staffing levels through the fire season.

#### 3.4.5.2 Fire Season

Documented fire history since Fossil Butte was created in 1972 does not include significant numbers or size of fires on which to generalize fire season statistics. The largest documented fire at Fossil Butte NM since the park was established occurred following a lightning storm in late August of 1981. Fire occurrence on the surrounding district of the BLM, Rock Springs shows a fire season of approx June – September with the majority of fires (476 of a reported 717 fires from 1983-2003, or 66%) occurring in July and August. Given weather and fuel conditions the fire season at Fossil Butte National Monument can be described as similar. Pre-greenup conditions in the grass/shrub vegetation with low fuel moistures in the shrubs and mostly last years dead growth in the grass can potentially lead to high fire risk for a period in late spring. Once new growth begins in the grasses and woody fuel moistures increase in the shrubs this critical period has passed. BLM records show occasional fires in April during conditions such as this. April through October represents the time from before spring green-up until after curing has occurred, and when climatic conditions favor ignition. Green-up is signified by the accumulation of new grass/forb growth and higher woody fuel moistures that significantly retards fire spread. This occurs usually in mid-May. The bulk of the rainfall occurs in May and June, but severe thunderstorms from June through August are responsible for the majority of the lightning-caused fires. Additionally, these are the same conditions when human starts (accidental and otherwise) can result in significant fire activity.



### 3.4.5.3 Fuel Characteristics

A comprehensive vegetation mapping and description effort was completed for Fossil Butte in 1984 by R.D. Dorn. Vegetation was divided into 12 different types. For the purposes of describing typical fire characteristics these have been re-combined into three distinct fuel types; sagebrush/mountain shrub, mixed timber, and aspen. These wildland fuel types have associated characterizations in the National Fire Danger Rating System (NFDRS) and the Fire Behavior Prediction System (FBPS).

<b>Vegetation or Fuel Type</b>	<b>FBPS Model</b>	<b>NFDRS Model</b>
Sagebrush/ mountain shrub	1/2/5/6	T
Mixed Timber	8/10	H/G
Aspen	5/8	R

Fuel model 1 is a grass model. Fire behavior in this model is characterized by high rates of spread and low resistance to control. The distribution of this model in Fossil Butte NM is quite limited. Fuel model 2 describes a forest community (e.g. limber pine) with an open overstory and a shrub/grass understory. Fire in this model is characterized by moderate rates of spread, relatively short flame lengths and low resistance to control. Fuel model 5 is

a shrub model; the model contains a live fuel moisture component necessary to predict fire behavior in sagebrush. Live fuel moisture of about 110% or less is necessary for fire to carry predictably in sagebrush. Fires in sagebrush communities are usually wind driven and may exhibit moderate (6-15 ft) flame lengths, moderate to high rates of spread and fairly low resistance to control. Aspen stands with a significant seedling and/or shrub understory may be modeled as a Fuel Model 5. Typically these stands retain relatively high live fuel moistures throughout the fire season and may act as a fire break except under the most severe conditions. Fuel model 8 is a timber model that describes aspen stands with a more closed overstory and less understory vegetation. Fire in this model is characterized by low rates of spread, short flame length and somewhat greater resistance to control. Except under extreme conditions, firefighters with hand tools and engines could provide effective fire suppression. When burning conditions are severe, aerial resources such as retardant and/or helicopter water drops may be necessary for successful suppression. Fuel model 10 is a timber model that describes the mixed timber stands found on the monument with a more closed overstory and moderate understory including dead and down fuels. Fire behavior is typically high intensity, yet slow moving with some isolated torching. Increased fire behavior and spread rates would be observed under high to extreme conditions which would likely require aerial resources.

Fires tend to be longer lasting and hold greater resistance to control in fuel types with heavier ground fuels, such as the mixed timber. These conditions become intensified during periods of long-term or extended drought. Fires can spread more rapidly and consume large acreages in the brush and grass fuel models, such as the sagebrush/shrub type, particularly under the effect of strong wind events that coincide with periods of low live fuel moisture and cured annual growth.

The majority of the land within the monument boundary is occupied by three sagebrush types. Aspen groves and mixed conifer forest dominated by limber pine and/or Douglas fir occupy steep, north-facing slopes and sites where the soil depth, texture, and moisture levels favor the growth of these species.

Stands of mountain shrub, dominated by Serviceberry, generally occur on the lee sides of ridges where meltwater from drifting snow elevates the soil moisture content. The largest stand of mountain shrub is approximately 50 acres in extent. However, the majority of the stands of mountain shrub on the monument are smaller than 25 acres.

Barren, windswept ridges, and areas dominated by low sage, sparse grass, greasewood, and Gardner saltbrush are interspersed throughout the other vegetation types and appear to be natural barriers to fire spread. The north and west boundaries of the monument and portions of the

monument's east boundary are dominated by stands of vegetation that have potential to carry fire beyond the monument boundary. Steep outcrops of the fossiliferous Green River Formation are essentially devoid of vegetation. Vegetation beyond the eastern boundary of the monument is generally sparse and probably would not carry a fire well.

Most of the lands that adjoin Fossil Butte National Monument are federal lands administered by the United States Department of the Interior (USDI) Bureau of Land Management. The rugged, remote nature of the topography requires specific "local" knowledge of access routes for fire suppression activities throughout the monument and adjacent lands.

Areas dominated by dense sagebrush can burn rapidly. Most sagebrush understory plants are surface deciduous, with the aboveground portions dying back at least once a year. As a result, several sagebrush vegetation types, including the low sage type, could become vulnerable to fire as standing plants dry and cure to the ground level.

The climate of Southwest Wyoming is not conducive to the rapid decomposition of plant materials by bacteria, fungi, and invertebrates. In the absence of herbivory, and/or fire, plant debris often accumulates faster than it decomposes and the plant communities can become more susceptible to fire over time.

At least 60 different species of grasses occur on the monument. Not all species of grasses occur in grass-dominated vegetation (grasslands), and the species composition of the monument's grasslands varies from place-to-place. Generally, the monument's grasslands are relatively sparse. They generally occur on shallow soils along ridgetops, and areas where sediments are being actively deposited (alluvial fans). The monument's grasslands are composed primarily of native wheatgrasses (*Elymus* spp.), bluegrasses (*Poa* spp.), needlegrasses (*Achnatherum* spp., *Nassella viridula*), junegrass (*Koeleria macrantha*), and Western grass (*Leucopoa kingii*). Grasslands within the monument boundary are predicted to have higher fuel content than grasslands beyond the monument boundary because domestic livestock have been excluded from the monument since 1989. However, the monument's grasslands are still predicted to burn unpredictably because the vegetation is not dense even though it is not heavily grazed.

Aspen and mixed conifer forests occur mostly on north and east-facing slopes and mesic sites along the southwest-facing slopes of Cundick Ridge. Forty-three stands of aspen are present on the monument. Only three stands of aspen exceed 25 acres in area. The largest stand is approximately 80 acres; 27 stands are smaller than 10 acres each.

The largest of the 15 stands of mixed timber, composed primarily of conifers, but including minor amounts of aspen, is approximately 80 acres in extent. This stand is located on the northern side of Ruby Point. Twelve isolated stands of mixed timber, each smaller than 20 acres, are irregularly dispersed throughout the remainder of the monument.

Stands of mountain shrub, mixed timber, and aspen can change a fires' spotting potential, rate of spread, and fire intensity. Monitoring and experimental burning are needed to better understand fire behavior in isolated stands of woody vegetation.

#### **3.4.5.4 Fire Regime Alteration**

Most vegetation communities in Fossil Butte are characterized by relatively short fire return intervals. Sagebrush-grass communities fall within Fire Regimes II and IV (fire return intervals of 20-60 years); limber pine in Fire Regimes I and III; and aspen generally in Fire Regime III. This means that fires naturally recurred on short intervals in the monument and were not very intense. Most communities are in Condition Class 1. Some aspen, limber pine/Douglas fire, and big sagebrush stands fall in Condition Class II, largely because of past fire exclusion. Condition Class 1 means that, even though fire has been excluded for a considerable time, the present fuel condition is such that the response to fire would be within the range of historic variability (i.e. fire effects would be in the expected range and there would be a low risk of losing key ecosystem components). Condition Class II means that an area has missed at least one fire return interval but the effects of a new fire would probably remain within the range of historical variability. (Hann and Bunnell, 2001)

The monument's vegetation has been altered historically by grazing and fire suppression. Grazing by domestic sheep and cattle in the area began in the late 1800s when settlement began. Grazing continued through 1989 when the practice on the monument was discontinued. Although some impacts of grazing remain evident, the distribution and structure of the vegetation community remain similar to the pre-grazing period. Other than grazing, the greatest influence on vegetation stand age and structure is the relative absence of fire since the area was settled. Only 260 acres of mountain big sagebrush and mountain shrub have burned since the monument was established in 1972. The 260 acre fire burned in 1981 (Dorn, R., et al., 1984).

#### **3.4.5.5 Control Problems and Dominant Topographic Features**

Control problems can be expected on fires burning in the peak fire season. When continuous fuels and warm, dry, windy environmental conditions are encountered, high fire intensities and rapid spread rates can be achieved within a short time. In these situations, firefighter safety may dictate use of indirect attack suppression methods.

Many areas within the Park present hazardous conditions, such as steep slopes with unstable footing, densely wooded draws, and/or continuous fuels. Suppression activities in such areas must be carefully planned and executed. Consideration of firefighter safety will in many such cases dictate indirect attack from established fuel breaks such as roads, topographic features, changes in fuel types, etc. Burn out of adjacent fuels under less severe conditions is to be given serious tactical consideration when spread rates are high, direction of spread is being driven by gusty erratic winds and/or slope and flame lengths are such that direct attack is not expected to be safe or effective.

Policy and topography limit vehicular access to certain portions of the monument. However, with the exception of the top of Fossil Butte, vehicles can get within a few hundred yards of most areas of the monument.

#### **3.4.5.6 Other Elements Affecting Fire Management**

Sagebrush, aspen, and limber pine are the predominant vegetation communities at Fossil Butte NM. Fire is a natural component of these communities and one of the primary influences under which the communities developed. Natural fire ignitions have now been suppressed in the Fossil Butte area for nearly 100 years. Under higher fire danger conditions it should be expected that fires will move across the sage stands following fuel and topography patterns and being pushed by wind events. In these cases it is likely that fires will be multi-jurisdictional including both Monument and BLM lands and/or adjacent private lands given the relative size of the monument and the potential rates of spread of sage fuels under extreme conditions.

The richest deposits of fossil fish are found in thin layers of sedimentary rock near the top of Fossil Butte. While fire management actions have the potential to adversely affect these resources,

vegetation where the fossil beds are exposed to the surface is generally absent or so sparse that it would not carry fire.

In 2004, the Haddenham Cabin, located in the southern portion of the monument, was listed on the National Register of Historic Places. The presence of historic quarries and other historic features in the vicinity of the Haddenham Cabin could result in the area being listed as a Historic District on the National Register of Historic Places in the future.

Developed areas which would be a primary concern for protection from fire include the visitor center located within the monument, one picnic area along the main park road, and a maintenance facility in the SW corner of the Monument. The Visitor Center and historic quarry trail area receive the heaviest public visitation with highest visitation occurring from May –July and during the middle portion of the day.

## **4 FIRE MANAGEMENT PROGRAM COMPONENTS**

### **4.1 General Implementation Procedures**

Wildland fire in the Monument will be managed to enhance resource protection, diminish risk and consequences of severe wildland fires and, to the extent possible, increase the health of naturally occurring vegetative communities and watersheds.

The Monument will employ a strategy of appropriate management response to all wildland fire starts. Selected management strategies will consider public and firefighter safety as the first consideration, with the ultimate goal of suppressing the fire. Tactics will consider resources at risk as well as the effects on park resources of selected suppression tactics.

Interagency policy guidance requires the completion of a Wildland Fire Implementation Plan, Stage I – Initial Assessment for all wildland fire starts, (Wildland and Prescribed Fire Management Policy, Implementation Procedures and Reference Guide). The Stage I Assessment is comprised of a two parts, a Fire Situation and a Decision Criteria Checklist. As wildland fire use is not an approved program component at the Monument, the initial assessment of a wildland fire will be comprised of a thorough fire size-up, Appendix B, describing the fire situation with the decision criteria checklist effectively covered programmatically by this approved FMP. Wildland fires where initial actions taken to suppress the fire are unsuccessful will have a Wildland Fire Situation Analysis (WFSA) completed guiding extended attack strategy selection and comparison of reasonable alternatives.

Prior to prescribed fire implementation, a specific operational plan, Prescribed Fire Burn Plan, will be completed. This plan will implement objectives identified in resource management plans and guidelines or this fire management plan. Prescribed fires exceeding prescription parameters beyond the capacity of on-site resources to control will be converted to a wildland fire with appropriate guidance documentation developed.

#### **4.1.1 Minimum Impact Suppression Tactics**

Minimum Impact Suppression Techniques, Appendix C, will be used on all fires. Fire management activities will be carried out in a manner that minimizes impacts to natural and cultural resources. Fire camp facilities, when practical, will be located outside of the park's natural and historic zones. Of primary importance is the need to impart upon suppression forces a minimum impact suppression philosophy. Suppression forces will choose methods and equipment commensurate with suppression needs and chosen strategy of confine, contain, control, or a combination which least alters the landscape or disturbs park resources. This policy is an attempt to take the national park ethic into account in firefighting practices; it is not a reason to relax normal safe firefighting practices.

#### **4.1.2 Emergency Rehabilitation and Restoration**

Planning and implementation of post-fire emergency rehabilitation and restoration will follow guidelines set forth in the Interagency Burned Area Emergency Stabilization and Rehabilitation Handbook as well as RM-18 Chapter 12 Burned Area Emergency Rehabilitation. "No-year" funding is available to allow parks to take immediate or short-term actions to prevent unacceptable resource damage and to minimize threats to life and property resulting from a wildland fire.

The monument will use the least intrusive BAER actions to mitigate actual or potential damage caused by wildland fire. The preferred action will be natural recovery of native plant species, except in rare circumstances. BAER actions for prescribed fire are inappropriate and will not be utilized.

Every effort will be made to prevent human-caused impacts during a suppression effort through careful planning and supervision, individual education and commitment and the use of minimum impact suppression techniques.

When rehabilitation is necessary, efforts will be initiated by the Incident Commander while the fire is being suppressed and through mop-up. If performed after the incident, the Monument will designate an employee to organize and direct rehab efforts following Burned Area Emergency Rehabilitation (BAER) standards directed toward minimizing or eliminating the adverse effects of the suppression effort with a special emphasis at preventing unacceptable soil erosion. If re-vegetation or seeding is required, only native plant species will be utilized.

Rehabilitation planning for each fire will be the responsibility of the Incident Commander in consultation with the resource advisor. Rehabilitation should be performed prior to complete demobilization. Only under unusual situation should rehabilitation be put off until the following spring.

#### **4.1.3 Records and Reports**

The basic report for documenting a wildland fire and prescribed fire activity is the Individual Fire Report (DI-1202). The report is valuable, as it provides a historical record of the fires for the monument. As such, it is important that all fires that occur within the boundaries be documented using, at a minimum, this form and includes fires that go out on their own when the location can be documented. Incidents known as Support Actions, where monument personnel respond to fires outside their boundary are also reported on this form. An individual fire report also provides documentation of fire personnel responding.

The latest version of the 1202 will be used to document fire starts and responses within 10 days of the fire being declared out. These reports will be sent electronically to Grand Teton National Park Assistant Fire Management Officer for review. The Fire Coordinator is responsible for completion and tracking records and reports. The final document will be forwarded to the GRTE Fire Program Assistant for entry in to SACS, or the current agency fire occurrence database. Note that all responses within and out of FOBU will have a report completed.

A complete fire report file will include the following attachments:

- Situation Map
- Personnel lists
- Accident reports
- All weather data reports and records
- Additional items documented to file:
  - Any written policies, guidelines & authority statements signed by the Superintendent
  - Copy of the WFIP
  - Copies of equipment/supplies purchased
  - Press clippings
  - Documentation of financial charges made against the fire account
  - Rehabilitation plan
  - Monitoring data

In addition to 1202 reporting, fire activity is reported daily to the Geographic Area Coordination Center through Rawlins Dispatch. Fire information is processed and shared with all fire agencies so that commitments of firefighters and equipment within the region and the nation are coordinated.

Incident Status Summary (ICS 209) forms will be completed by the IC no later than 1800 hours each day for fires 100 acres or greater. These will be faxed or emailed immediately to Rawlins Dispatch Center.

#### **4.1.4 Air Quality and Smoke Management**

The fire program at Fossil Butte NM will comply with federal and state air quality regulations. Currently the state of Wyoming has an approved Statewide Implementation Plan and associated Smoke Management Regulations as described under the Clean Air Act. The SMR requires registration of proposed projects, documentation of public notification, burner education, smoke monitoring, and final project accomplishment reporting. There are no Class I airsheds within or adjacent to the Monument and no significant air quality issues have been identified in regard to the fire management activities at FOBU.

Prescribed fire projects implemented under this plan will meet the requirements of the state's regulation. Coordination between the agency and the DEQ will take place if the state has any concerns over effects on the airshed or public health due to project implementation. Project registration will include documentation of any alternatives to burning that were considered and emission reduction techniques that are being implemented. The managers will work closely with DEQ to mitigate any identified concerns. Mitigation measures may include burning under different atmospheric conditions for better smoke dispersal, limiting the acres treated in any one burn period to reduce smoke production, burning under different fuel conditions to minimize smoldering and incomplete combustion, etc, all of which are described in the SMR's Guidance document currently being drafted by the DEQ.

## **4.2 Wildland Fire Suppression**

Management actions applied to a fire can consist of a range of suppression oriented responses, ranging from aggressive initial attack to a combination of strategies to achieve confinement. There may be periodic fire occurrences that warrant a combination of strategies that result in aggressively suppressing a portion of an unwanted wildland fire as well as confining the fire within the remaining fire perimeter in order to meet other objectives (firefighter safety, minimize cost, maximize utilization of scarce suppression resources, or avoiding detrimental effects of aggressive direct suppression actions). These situations will be closely scrutinized and appropriate decision documents articulating selected strategies will be developed.

All fires which exceed any prescription parameters must be suppressed using an appropriate suppression action. In the park, this includes:

1. All human-caused fires or naturally caused fire, regardless of location.
2. Any prescribed fire that exceeds the unit boundary or prescription as defined in the prescribed burn plan.

### **4.2.1 Potential Range of Fire Behavior**

The range of potential fire behavior is wide dependent upon fuels involved, seasonal considerations and weather conditions present at the time of a fire. Fire behavior is described in detail by fuel type in section 3.4.5.3 Fuel Characteristics.

## **4.2.2 Preparedness Actions**

### **4.2.2.1 Fire Prevention Activities**

Fire prevention activities are coordinated jointly with other land management agencies (Bridger-Teton NF, Rock Springs District BLM) and integrated into regular monument education and information activities and materials.

Fossil Butte NM, through the Wyoming Interagency Fire Restriction Plan (IA Agreement # BLM K910-A96-014) participates in coordinated implementation and rescinding of area and activity restrictions as fire danger varies. Common terminology, fire danger thresholds and activity restrictions are applied to industry and public regardless of agency land ownership in areas of common fuels and terrain. Initiating and rescinding restrictions is done in a coordinated manner with other area districts and zones.

The plan describes “Partial” and “Full” fire restrictions. Due to other park regulations, partial fire restrictions impose no additional restrictions on the general public on Monument lands. In those cases additional fire danger information is posted at public areas throughout the monument. When “Full” restrictions are implemented the following additional activities are affected:

- All outdoor fires are prohibited
- Smoking shall be restricted to inside vehicles or buildings, and
- The use of motorized equipment or tools shall be restricted to cleared areas ten feet in radius.

See the Wyoming Fire Restriction Plan, Appendix D, for full description of restrictions and definitions.

### **4.2.2.2 Annual Training Activities**

All personnel taking part in the fire program will meet current agency and NWCG standards (National Interagency Incident Management System, Wildland and Prescribed Fire Qualification System Guide, PMS 310-1, Jan 2000) for training and job qualification. All line-going personnel will have a current “Red Card” (Interagency Incident Qualification and Certification Card) rated at the appropriate physical fitness level and job skills for the position they are fulfilling on the incident. The qualification system sets required prerequisite training and job experience for each identified ICS position, along with an associated physical fitness requirement.

Local level training is coordinated and hosted at various federal and state land management agencies. Some examples of local level training are Basic Fire School (S-130 Intro to Wildland Firefighting, S-190 Intro to Wildland Fire Behavior), Portable Pumps and Water Supply (S-211), Power Saws (S-212). These classes teach basic fire skills or knowledge about local incident management. Also included in local training is the required Annual Fire Safety Refresher. All NPS personnel participating in fire suppression or prescribed fire activities who may be subject to assignments on the fire line are required to attend 8 hours of annual refresher training prior to being considered current for the season (Interagency Standards for Fire and Fire Aviation Operations, Red Book).

Training beyond this level is offered through interagency training centers coordinated at geographic areas. Personnel desiring to develop additional skills in fire command, operations, or other incident management areas typically require additional higher level training. A training needs analysis will be completed in the fall of the year to ensure adequate local training is provided and nomination deadlines are met for out-of-area training offerings. These nominations will be initiated by the interested student, approved by their supervisor and forwarded to the course coordinator through the park fire coordinator, to ensure prerequisite skill and training requirements are met.

Incident experience, training attendance, and other incident qualifications data is entered and archived in the Incident Qualifications and Certification System (IQCS) database. This database is utilized to create Red Cards for the fire season. A pre-season review of personnel records will ensure up-to-date and accurate records prior to issuance of Red Cards. Upon attendance of the annual fire safety refresher and completion of the requisite Work Capacity Test (Walk/Field/Pack) a Red Card will be issued by the Fire Management Office, Grand Teton NP and forwarded to the employee by July 1 each year. This card will document all qualified positions and trainee positions for which an employee is current for the season. This information will also be made available to the servicing dispatch center for potential out-of-area mobilizations.

#### **4.2.2.3 Annual Fire Readiness**

To prepare for each upcoming fire season FOBU will complete a training analysis, equipment inspections, inventory readiness, and other tasks. In addition to FOBU preparedness, coordination with the Bridger-Teton National Forest and the South Lincoln County Fire District is imperative.

**Training:** In January FOBU will review all red carded employee records and certifications. Appropriate training will be sought out for employee development and to ensure the proper number and appropriate skills are available at FOBU.

Minimum staffing FOBU should strive for is one red carded ICT5/ENOP, and two firefighters to staff their engine and provide incident commander capabilities. If this is not maintained, the monument will have to rely on outside resources to provide this capability.

**Annual Preparedness Review:** An annual preparedness review using the interagency standards will be completed during the spring, prior to the fire season using interagency cooperators where available. Comments and a review summary will be given to the Park Superintendent with a copy forwarded to Grand Teton National Park fire management office and the Intermountain Regional Office.

#### **Annual Tasks:**

##### **January:**

- Perform fire physical exams and fitness tests as per standards in *Reference Manual* 18.
- Review and update cooperative agreements with neighboring fire management Agencies.
- Review red cards and training.

##### **February:**

- Inventory fire equipment and update equipment lists. Include the fire cache and personal equipment.
- Order supplies.
- Review step-up plan.
- Inspect all fire equipment. Check operation of engine pump and backpack pumps.
- Check established procedures for using suppression and emergency preparedness accounts, verify accounting structures approved for the current fiscal year.
- Complete and update all prescribed fire plans for spring season and have them signed by the superintendent.

##### **March:**

- Obtain or prepare signs regarding prescribed fire interpretation.

##### **March to Mid October (Fire Season):**

- Inspect all fire equipment for readiness; operate engine monthly.
- Schedule and complete annual preparedness review.
- Complete annual safety refresher and physical fitness tests. Issue red cards and pocket cards

- Complete all prescribed fire plans for the fall season and obtain signatures from the superintendent.
- Coordinate required annual refresher and additional local training needs with adjacent cooperators.
- Complete after action reviews following each incident.
- Complete a DI-1202 Fire Report within 10 days of each incident and submit to Grand Teton National Park Assistant Fire Management Officer for review and entry.
- Ensure fire replacement of equipment and supplies is completed in a timely manner and prior to the fiscal year end.
- Evaluate individual performance of staffs, correct deficiencies and recommend personnel for training.

**November:**

- Critique fire season, including all fire management activities (i.e. wildland fire suppression, prescribed fires and mechanical fuel treatments, prevention, etc.)

**December:**

- Review and revise *Fire Management Plan* as needed.
- Update and submit fire experience and training to Grand Teton National Park Fire Management Program Assistant for entry in to the interagency qualifications system.

#### **4.2.2.4 Fire Weather and Fire Danger**

Fire danger ratings are not issued specifically for Fossil Butte NM. As there are no dedicated sources of fire danger weather stations in the monument the closest maintained station with an accurate, historical record is used. This is the Muddy Creek RAWS station on the Rock Springs District, BLM. Fuel and weather conditions do not vary significantly enough, nor is there a local historic fire load to justify positioning of an additional RAWS unit in or in proximity to the monument. Additionally this would be of little analytical value for a number of years until a robust weather set was archived. As such Fossil Butte will assume the fire danger conditions existing on nearby BLM lands are concurrently present on the monument.

Fire weather is currently forecast for monument lands by the National Weather Service, Riverton, WY Forecast Office. Fire weather forecasts are produced twice daily during fire season, approx April 1 – October 31, and spot weather forecasts are available for federal land managers 24 hours a day, 365 days a year from the Forecast Office. Fossil Butte NM is a part of Forecast Zone 277 according to the 2004 Fire Weather Operating Plan of the Riverton Fire Weather Forecast Office.

Forecast products are available on the NWS - Riverton website: <http://www.crh.noaa.gov/riw/fire.htm>

Fire weather forecasts are broadcast daily during fire season over the BLM, Rock Springs District command frequency, and USFS, Bridger-Teton NF, West Zone repeater channel by their respective dispatch offices. Personnel at the monument will keep abreast of fire weather and fire danger information daily through fire season through one of these means.

#### 4.2.2.5 Weather Stations

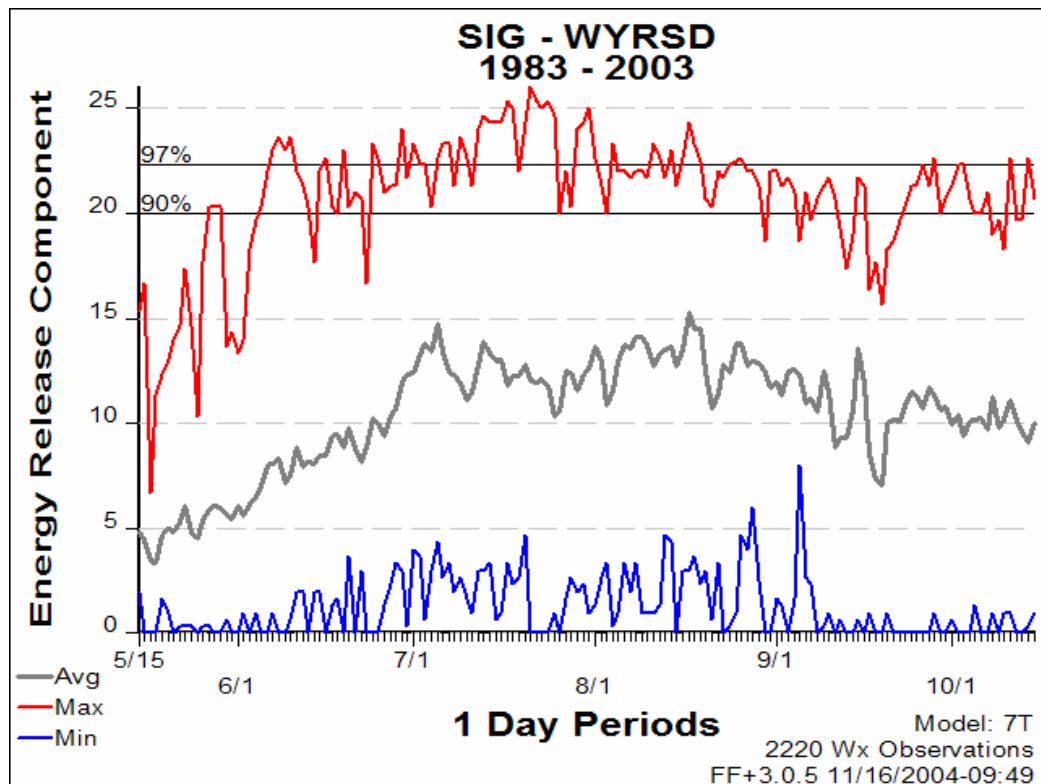
The BLM-Rock Springs District, Muddy Creek RAWS station is the closest, most representative fire weather station to the monument. Additionally, the Rock Springs District manages two other RAWS units, Anderson Ridge and Snow Springs Creek. These three stations have been combined into a special interest group (SIG) to predict fire danger. The Rock Springs District SIG is utilized by Rawlins Dispatch to determine staffing levels for the RSD. This station group will be utilized to determine daily and seasonal fire danger for the monument and the associated fire danger reported for FOBU through the daily Situation Report as well. Management of the three stations is conducted by BLM personnel through annual maintenance and upgrades. Station catalog records and management, as well as SIT reporting falls to personnel at the Rawlins Dispatch Center. Station maintenance records are housed in the Automated Sorting and Catalog Distribution System (ASCADS) database and weather observations and fire danger indices are archived in the Weather Information Management System (WIMS) and are available on-line for other units to observe.

#### 4.2.2.6 NFDRS

The National Fire Danger Rating System utilizes indices to indicate the potential for and severity of wildfire occurrence. The NFDRS fuel model representing sagebrush (T) is the model selected for predicting fire danger rating locally. Guidance suggests using fuel models and conditions where fires can pose serious management concerns, as brush fuels can be expected to be more problematic than timber on monument lands this is appropriate. The Burning Index (BI) and Energy Release Component (ERC) are fire danger indices that are closely monitored throughout the season by local fire managers. The Rawlins Dispatch Center has identified the ERC to be utilized for unit fire danger rating agency-wide. The Rock Springs SIG weather data set covers the period 1983-present, over that time the following chart represent the historic low, average, and high values for the Burning Index and Energy Release Component calculated for sage fuels.

Station Name	NWS ID	Elevation	Lat D/M/S	Long D/M/S	BI 90/97	ERC 90/97
Muddy Creek	481801	6970'	41:24:02	110:32:35	91/112	21/23
Snow Springs Ck	481904	7550'	41:25:03	109:02:10	87/108	19/22
Anderson Ridge	481903	8120'	42:42:14	108:56:27	96/117	19/23
<b>Rock Springs District SIG</b>					88/105	20/22

The daily fire danger values are available through a variety of means. They are broadcast by the Rawlins Dispatch Center on BLM frequencies each morning to fire staff; they are also posted on the Rawlins Dispatch Center web page (<http://www.fs.fed.us/r2/fire/rwc/rwc.htm>) during fire season. Monument staff can also view the daily weather observation and associated fire danger index values on the web through the Weather Information Management System. The Fire Coordinator will monitor this daily through one of these means during the fire season. Information will be shared with any red carded staff on a daily basis when in Preparedness Level 3 or higher.



This graph represents the annual trend of the ERC through the typical fire season (5/15 – 10/15) for the grouped Rock Springs District SIG. The gray line follows the 20 year average daily values, the red line represents each day's maximum value from the historic record, the blue line represents the daily low. Also represented on the graph is the stations 90<sup>th</sup> (20) and 97<sup>th</sup> (22) value on which fire danger rating determinations are made.

The Burning Index can be highly influenced by the effects of wind speed. This can vary greatly from one day to another during the fire season. The Energy Release Component is a fire danger index that is weighted more heavily towards the effects of fuel dryness throughout all of the fuel size classes represented from annual grasses to heavy logs. As such peaks and declines in the annual ERC trend are smoother and relate to longer duration weather events. Since the Monument has no dedicated fire staff able to respond daily to significant changes in fire danger, the annual ERC trend will be utilized to guide local Step Up staffing decisions. Monument personnel will monitor both the Rock Springs District SIG and the ERC values for the Muddy Creek station alone to verify the local staffing level. Increases in staffing and preparedness actions shall be closely coordinated with the activities of both adjacent BLM and West Zone Bridger-Teton NF fire staffs.

#### 4.2.2.7 Step-Up Staffing Plan

The Preparedness Plan, Appendix E, for the monument bases escalating levels of preparedness actions and prevention activities upon increasing ratings of the Energy Release Component. The monuments fire coordinator must also evaluate, in consultation with neighboring fire management officials, associated fire trends, recent and predicted weather, conditions of fuels, availability of resources, visitor use patterns and commitment to ongoing incidents prior to initiation of pre-determined step-up actions.

The following breakpoints have been established from analysis of the historical weather record from local fire danger network weather stations. Primary consideration for step-up, step-down actions will be based upon Muddy Creek ERC values.

Staffing Level	RSD SIG	Muddy Creek		Adjective FD Rating
	ERC	BI	ERC	
1	0-2	0-10	0-1	Low
2	3-14	11-64	2-15	Moderate
3	15-19	65-90	16-20	High
4	20-21	91-111	21-22	Very High
5	22+	112+	23+	Extreme

In accordance with direction in Reference Manual 18, all step-up actions described in a Preparedness Plan under an approved Fire Management Plan are authorized to be charged to an appropriate preparedness funded account. The Fire Coordinator will request from the AO that a pre-suppression account be established under the appropriate PWE to charge costs for approved actions (extended shifts, additional staff on duty, etc.) when it is determined that these critical thresholds have been reached. The FMO, Grand Teton NP will be notified in the event such actions are undertaken. The Fire Coordinator and the FMO will work together to determine when fire danger and seasonal conditions warrant the request of funds under a severity situation.

Severity requests will identify specific additional resources requested to bolster initial attack forces in periods of anticipated extended higher fire danger. Severity requests should be coordinated with adjoining interagency units and will include assessments of long-term fuels and weather conditions. These requests are approved by the RFMO unless the total request exceeds \$100,000 at which point the RFMO forwards the request to the NFMO at the Fire Management Program Center for action.

#### **4.2.3 Pre-Attack Plan**

The goal of the Pre Attack Plan, Appendix F, is to pre identify those command, planning, and logistical needs and concerns that that would arise in most extended attack and large fire support scenarios at the Monument. Close coordination will need to exist between an extended attack IC or Incident Management Team and the assigned local agency representative. Reliance on the servicing dispatch center, Rawlins is also key in these instances. Many logistical needs can be met through utilization of the dispatch center Service and Supply Plan and the appropriate logistics coordinator familiar with Emergency Equipment Rental Agreements in place and available to the interagency community. Many issues though will need to be decided upon locally (camp/staging area location, aerial operations hazards and considerations, telephone and utility accessibility, etc.). A carefully thought out Pre Attack Plan can assist in this.

#### **4.2.4 Initial Attack**

Wildland fire suppression includes all actions to extinguish or limit the growth of fires, regardless of the strategies and tactics chosen. All wildland fires will receive prompt, safe, and cost effective suppression actions. The selected strategy in any suppression action will reflect firefighter and public safety, resources at risk, and the effects of fire management activities.

If the selected initial suppression action fails to control a wildland fire, a Wildland Fire Situation Analysis will be completed analyzing alternative strategies, their respective costs, safety concerns, resource commitments, and probabilities of success. The Agency Administrator will select and approve the new strategy and ensure appropriate resources are organized to implement the selected response.

#### **Initial Fire Report:**

Whenever a fire is reported in the park, the person taking the report should attempt to obtain as much information as possible to complete a thorough Fire Size Up form, Appendix B. The fire should then be immediately reported to the Rawlins Dispatch Center to initiate a response.

#### **Initial Mobilization of Resources:**

Although the Monument has fire responsibility, the Rawlins Dispatch Center will dispatch the closest available initial attack resources to the fire location. Cause determination and protection of the origin will be incumbent upon the responding resources. If human caused, law enforcement personnel will be called in to investigate. The Bridger-Teton NF staffs an engine in the Kemmerer District Office (11 miles east) and should be requested first. The Rock Springs District typically maintains engines in Rock Springs (99 miles south-east). The monument has a T6 engine on location, although no fire management staffing is currently approved for the monument. This engine will be utilized only when appropriate staffing (leadership, crew complement, and qualifications currency) can be ensured. The NPS qualifications require a minimum of an ICT5 / Engine Operator for initial attack on in-park fires.

Responding resources, whether NPS or a cooperating agency will meet NWGC standards for training, physical fitness, and currency. As resources arrive on scene the appropriate incident commander (IC) will take control of the suppression action based upon incident complexity. Every fire will have an assigned incident commander. The IC will be made known to all resources assigned to the fire and to the dispatch center.

#### **Response Procedures:**

- The Chief Ranger ensures radio communications are established with a fire dispatch center and facilitates the response with incoming resources. They may act as a resource advisor to for the fire. Fire dispatching must be maintained while resources are engaged with the fire either at the local level or through the Rawlins Interagency Dispatch Center.
- Every fire will have an assigned incident commander (IC). The IC will be made known to all resources assigned to the fire and to the dispatch center and operate under the Incident Command System.
- A complete fire size-up (Appendix B) will be broadcast on the radio system when a qualified IC arrives on scene.
- If the fire is located near the boundaries and there is potential for the fire to encroach onto adjacent lands, the appropriate land owner/management agency will be notified (Appendix J – Interagency Contacts).
- Additional resources will be requested by the IC through the radio system and relayed to Rawlins Interagency Dispatch Center.
- If the fire exceeds or is likely to exceed the qualifications of the IC, they or the Chief Ranger will request command resources through the Rawlins Interagency Dispatch Center.
- A spot weather forecast will be requested through the Rawlins Interagency Dispatch Center for all fires which exceed initial attack capabilities or have the potential to extend attack past the first operational period.
- The IC is responsible for the fire until relieved by a more qualified IC or until the fire is declared out.
- Declared out status shall be designated at least 24 hours after the last smoke has been identified.

#### **Fire Location Outside the Monument's Boundaries:**

If Monument personnel are requested to assist with fires outside the area, it is paramount that all qualification requirements are met prior to responding. For the Type 6 engine to respond off unit, is must be staffed with a qualified Engine Boss.

#### **4.2.4.1 Initial Attack Priorities**

In cases of multiple fire starts competing for a limited pool of suppression resources, priorities will be set by the Chief Ranger. Considerations will be made as to:

- Imminent life/safety concerns (threats to firefighter or public safety)
- Threats to private structures or physical improvements
- Natural and cultural resources at risk
- Archaeological sites
- Probability of success with initial action

#### **4.2.4.2 Appropriate Initial Attack Response Consistent with GMP/RMP Objectives**

Coordination among the various local landowners (BLM, NPS, private) will facilitate safe, effective suppression actions allowing for access to and knowledge of road systems and resources at risk.

The initial attack response will be consistent with monument management objectives described in the General Management Plan and Resource Management Plan and elaborated on in this FMP. The primary goal of any suppression action is to control the fire. Firefighter and public safety will always be the primary objective, while the effects of fire suppression actions will be weighed against fire control objectives. Minimizing fire size is not always paramount to a safe, effective fire suppression action on monument lands. Consideration must be taken in regards to fragile, erodible soils, paleontological sites, historic and pre-historic sites, sensitive plant communities, etc. In many cases it would be preferable to take an indirect action from an existing fuel break (roadway, bare ridge, fuel type change) vs. an aggressive direct action requiring line construction and significant off-road activity.

#### **4.2.4.3 Confinement as an initial attack suppression strategy**

In the selection of a suppression strategy, either on a fire started on the monument or on adjacent BLM lands, “confinement” is one strategy alternative available to managers. Confinement may be selected in order to maximize firefighter safety, minimize suppression costs, and not commit limited suppression resources in periods of high competition. *Confinement will not be utilized to meet resource benefit goals and objectives in lieu of wildland fire use.*

In the event that confinement is selected as the initial action on a wildland fire, a long-term implementation plan is required to guide the confinement strategy. The completion of a Wildland Fire Situation Analysis with an Implementation Plan is required to guide the confinement strategy. The plan will identify interagency contacts, suppression objectives, resources at risk, gross fire behavior/growth projections, and estimated costs, as well as management action points where the strategy will be re-evaluated or limited suppression actions will be initiated to protect resources at risk. While the tactics selected for implementation of this strategy can be considered less aggressive the overall objective is still suppression of the wildland fire.

#### **4.2.4.4 Typical Fire Response Times**

As no initial attack modules are managed or controlled directly by the monument, resource type and response time are generally outside the control of the NPS. Through close coordination with the BLM and USFS initial attack resources will be managed such that response times and adequate resources are available during the fire season. In the event that IA resources are depleted, management may elect to staff additional IA resources identified under the Preparedness Plan or an approved severity request.

Currently the BTF, West Zone fire management staffs a T6 engine at Kemmerer (11 miles east of FOBU) from approx June 1- September 30. The staffing levels for the west zone are detailed in the BTF/GTP Preparedness Plan, with the closest additional resources located in Big Piney (81 miles north), and Afton (86 miles north).

The BLM, Southwest Zone staffs four (4) T6 engines in Rock Springs (99 miles south-east) from approx May-October. Staffing is either five or seven days per week dependent upon fire danger level as determined by the Zone Fire Operations Supervisor.

Both groups operate under the Interagency Standards for Fire and Fire Aviation Operations and utilize the interagency readiness review checklists to determine standards for equipment, qualifications, and get away times.

Cooperative agreements are also in place with the South Lincoln County Fire District and the Wyoming State Forestry Division. These departments are not necessarily available for initial attack during fire season. The county volunteer qualifications will be accepted during initial attack, while NWCG standards must be met by all firefighting resources during extended attack.

#### **4.2.4.5 Restrictions and Special Concerns.**

Due to relative size of the monument and the potential fire spread in grass/shrub fuels the entire monument is designated as one fire management unit. There are no designated or proposed wilderness areas within or adjacent to monument lands.

Restrictions, mitigations and concerns can be found throughout this plan in their appropriate sections.

#### **4.2.4.6 Coordination Issues**

During periods of extended attack and continued fire activity communication will occur frequently with local, county, and state government representatives and local media personnel in order to inform the public. A roster of available local resources will be maintained by the Rawlins Dispatch Center. These local resources will be utilized to the greatest extent possible in the implementation of the activities outlined in this plan.

Local resources will also be utilized and coordinated through local and county officials when needed for rest and recuperation of firefighting resources brought in to the area for fire operations. See the Pre-Attack Plan for logistical assistance with food, lodging, etc.

### **4.2.5 Extended Attack and Large Fire Suppression**

#### **4.2.5.1 Extended Attack Needs.**

The unit fire history does not justify the staffing of initial attack resources dedicated specifically to fire management on monument lands. Reliance upon local, state, and federal cooperators for fire operations staffing and equipment will continue in the management of fires beyond initial action. Extended attack resources will be monitored by both Teton Interagency (in the case of BTF staff) and Rawlins (in the case of RSD staff) Dispatch Centers.

A fire will be considered to be in extended attack if the initial action is unsuccessful. The initial action may take more than one burning period to be successfully completed, and control of the fire may not be declared initially, however if the initial action is not meeting suppression objectives and there is no reasonable estimate of containment within two burn periods the fire will be considered in extended attack.

The fire's complexity will be determined by the initial attack incident commander utilizing interagency guidelines and checklists. Beyond the first burn period, consultation may include the Chief Ranger to determine extended incident complexity. Imperative in any incident complexity analysis is the realization that when the complexity of a wildland fire is escalating is typically one of the most dangerous periods of incident management.

#### 4.2.5.2 Implementation Plan Requirements – WFSA development.

A fire that exceeds initial action requires an extended analysis of strategic alternatives, along with the selection of a new strategy by the agency administrator. A Wildland Fire Situation Analysis is a decision making process in which the Park Superintendent or their delegate describes the situation, evaluates the expected effects, establishes objectives and constraints for the management of the incident, describes alternative strategies and selects an appropriate alternative and documents that decision.

Ideally much information describing typical effects, unit objectives and expected costs can be pre-identified for use in this process. The use of an interdisciplinary team in developing the selected alternative will greatly enhance the usefulness of the process. The Fire Coordinator along with the GRTE FMO or Chief Ranger will work closely with the Superintendent in working through this process. The Superintendent will recruit team members as needed to complete the process.

The required elements to be addressed in the WFSA are:

- Current Situation
- Evaluation Criteria
- Alternatives
- Analysis of Effects
- Record of Decision
- Review/Evaluation/Update
- Probability of Success
- Consequences of Failure

This analysis will be completed to evaluate suppression responses to wildland fires that have exceeded initial attack response or planned management capability, or a prescribed fire that has exceeded the capability of the committed holding resources to control the fire within one operational period. The WFSA is approved by the agency administrator, with fiscal authorities described below.

<b>Selected alternative expected costs</b>	<b>Approval authority</b>
\$2,000,000	Park Superintendent
\$5,000,000	Regional Director (RFMO)
Above \$5 million	Director (NFMO)

In the event that a Wildland Fire Situation Analysis is developed to manage a wildland fire under a confinement strategy or an extended attack suppression fire and that WFSA strategy is unsuccessful a second WFSA will be initiated. The new WFSA will be completed to determine an alternative strategy and resources needed. The plan will again identify interagency contacts, suppression objectives, resources at risk, gross fire behavior/growth projections, and estimated costs, as well as management action points where the strategy will be re-evaluated or limited suppression actions will be initiated to protect resources at risk.

#### **4.2.5.3 Incident Management Transition**

Analysis of modern wildland fire management organizations has shown a 90% and greater effectiveness in meeting initial attack objectives across agency lines. The majority of these actions are initiated by “local” interagency resources. Control of the remaining 10 percent of fire occurrences, however, will require assistance from adjacent cooperating agencies, or regional and national fire organizations.

The complexity of an incident must continually be analyzed by the incident commander using the complexity analyses formalized and in use throughout the federal fire agencies. Specific threshold indicators are identified for incident commanders and Chief Ranger to realize when an incident’s complexity exceeds current management capability. This transition of complexity must be carefully managed in order to ensure the safety of the public and engaged personnel. An extended attack complexity analysis will be completed using either the Incident Response Pocket Guide or the “Red Book” standards as a guide.

If a fire threatens to exceed the initial attack capabilities of FOBU and local cooperating agencies, an Interagency Incident Management Overhead Team will be immediately requested by the Agency Administrator through Rawlins Dispatch. The amount and type of assistance needed and requested will depend on the present and expected complexity of the fire situation, and be documented on a Resource Order Form (NFFS-1470). These needs will be identified by completing the Fire Complexity Analysis Checklist found in the “Red Book” when the fire escapes initial attack. Incident management information can be found in Chapter 11 of the “red book”. During the transition from initial attack until a fully qualified overhead team arrives and takes over the fire, the incident will be managed by FOBU’s or surrounding agencies most qualified IC.

#### **4.2.5.4 Unit example of “Delegation of Authority” for Incident Commander.**

The procedure and a briefing document for managing the transition between FOBU and an Incident Management Team can be found in Chapter 11 – Incident Management in the “Red Book”. The transfer of responsibility for suppression actions on the fire will be done officially ONLY through the execution of a Delegation of Authority by the Superintendent or designated acting alternate.

### **4.3 Wildland Fire Use**

Due to the relative size of the Monument and potential scale of wildland fires in the predominant fuel type (sagebrush steppe) this option was considered and rejected as a viable management tool at the present time.

### **4.4 Prescribed Fire**

Prescribed fire is used as a management tool to achieve specific resource objectives or manage hazardous fuels and will follow policy, guidelines, and standards of RM-18, Chapter 10. NPS units are required in DO-18 to “reduce, to the extent possible, hazardous fuels in the wildland urban interface.” In many cases similar resource management objectives will be in place on large tracts of lands inside and outside Monument lands. This plan will emphasize cooperation with adjacent land managers, when management objectives coincide, on the implementation of landscape scale fuels and vegetation management projects. The use of prescribed fire as a management tool is integral to meeting the objectives of the Resource Management Plan relating to restoration of the Chicken Creek drainage and the adoption of an ecosystem management approach to managing the resources of FOBU.

Hazardous fuels will be assessed in areas of proximity to developments and high visitor use. Prescribed fire alone or in conjunction with mechanical fuel reduction may be used to reduce the risk of loss of these resources during a wildland fire event. Fuels reduction projects will be developed

under this plan and receive review as appropriate for compliance with all applicable laws and regulations (NEPA, ESA, NHPA, etc.).

#### **4.4.1 Planning and Documentation**

##### **4.4.1.1 Annual Activities**

Planning for prescribed fire projects is a collaborative process involving all park disciplines for project prioritization, education, design, goal and objective development, implementation, and monitoring. Once a project is proposed an interdisciplinary group such as the fire management committee will devise an implementation strategy to meet the project objectives including fire management and/or fuels treatment objectives, project boundaries, weather and fuel prescription, timing, areas of special concern, and monitoring and evaluation.

Implementation of prescribed fire projects is completed with a combined effort from all local cooperators. Scheduling is an important function as limited resources may be available for completion of multiple burns within short windows of opportunity, typically but not limited to spring and fall seasons. Project requests should include estimated costs of bringing resources in from out of the area to meet resource needs over the short implementation phase. As with all fire operations conducted at FOBU, resources implementing prescribed fire will meet all NWCG qualification for prerequisite experience and training and be qualified for those positions they are filling within the project organization. Specific requirements are identified in various agency and interagency policy and operation guidelines.

The following list outlines annual activities that must be accomplished in order to successfully complete prescribed and fuels management projects. Additional, site-specific activities are included in the project implementation plan and further explained in the daily Incident Action Plan.

- Update Five Year fuels management plan for mechanical and prescribed fire treatments.
- Review current/predicted weather information, fire behavior indices, national, regional, and local situation reporting.
- Coordinate wildland urban interface projects, priorities, and standards for current and future community protection initiatives with all cooperating agencies.
- Coordinate with interagency cooperators and schedule work crews for project preparation, implementation, evaluation and monitoring.
- Program annual budget to authorized amounts and management priorities.
- Provide resource specialists with the updated prioritized project compliance list and maps for proposed contract work.
- Prepare prescribed burn plans and project proposals for review and signature.
- Ensure all information required by Wyoming Dept of Environmental Quality is submitted according to current timelines for project permitting.
- Complete annual updates for plans and agreements including the Fire Management Plan, interagency agreements and burn plans.
- Submit budget requests and updates.
- Conduct field orientation trips with resource managers to further define project areas, goals and objectives.

#### **4.4.1.2 Long-term prescribed fire strategy.**

The prescribed fire and fuels management strategy for the monument will be to treat those areas adjacent to park developments and/or boundary concerns to reduce risk of loss of the resources due to fire. The strategy will also be to treat those vegetation communities determined to be most significantly affected by the previous policy of fire exclusion. Previous discussion in Chapter 3, Fire Management Strategies identifies fire regime and condition class in general terms for the major vegetation types found on the monument.

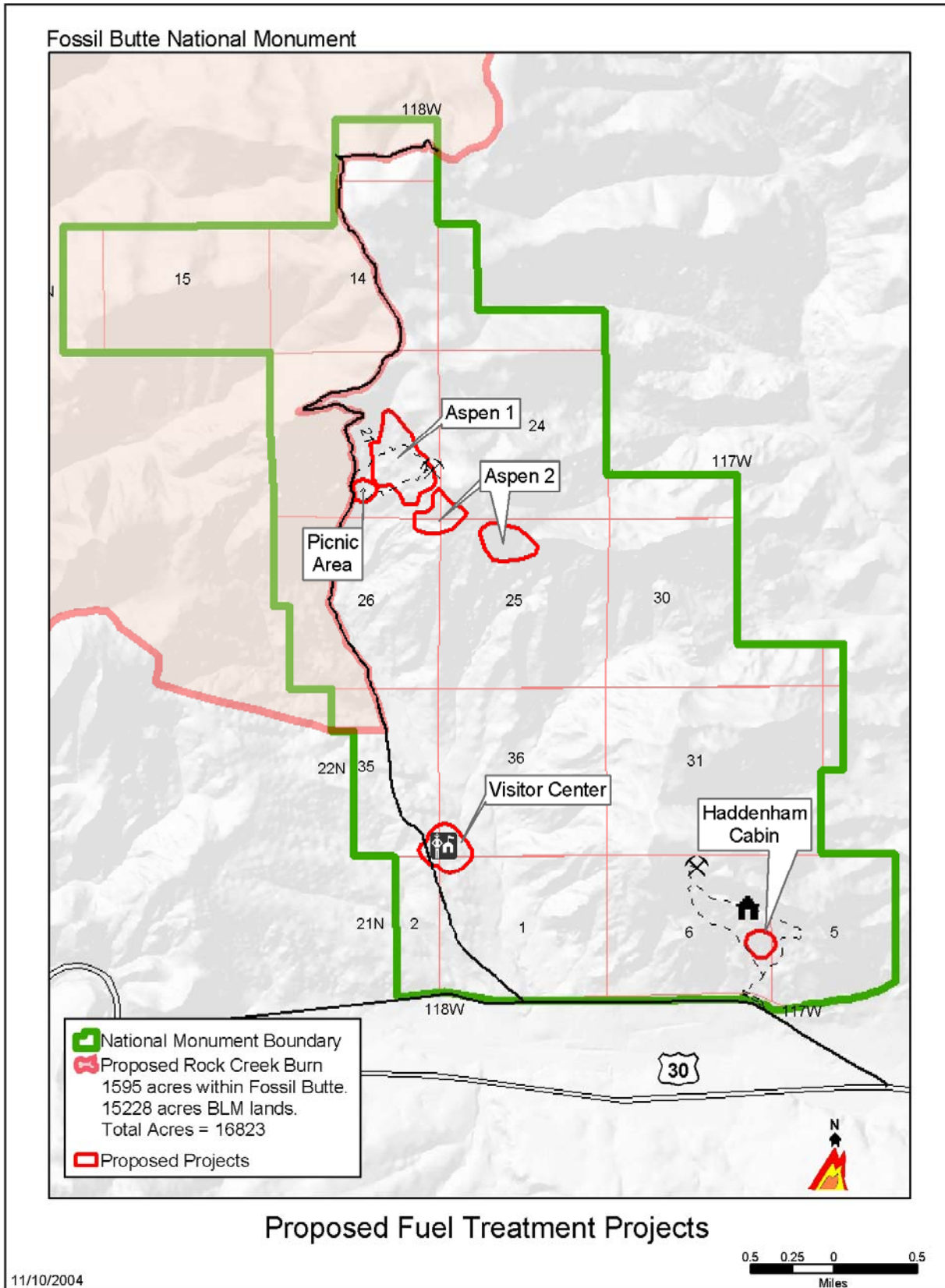
The attached 5-year fuels treatment plan (Appendix G) identifies proposed projects to begin treatment on those higher priority units. Initially these efforts will target fire and or fuels treatments around park developments; Haddenham cabin/historic quarry trail, Visitor Center, picnic area/spring, and vegetative treatments in units of big sagebrush/mountain shrub, aspen and limber pine.

#### **4.4.1.3 Personnel Requirements**

The proposed prescribed fire workload for the monument will require staff assistance in the identification and design of project objectives and implementation. Operational personnel for project implementation will be sought from the interagency fire community in the local area. Grand Teton National Park, Bridger-Teton NF, and Kemmerer Field Office-BLM all have personnel qualified in the planning, implementation, and monitoring of prescribed fire projects. Part of the interagency agreement between Grand Teton NP and Fossil Butte NM includes commitments from GRTE to ensure qualified individuals are available to implement approved projects. These staffs will be utilized to the greatest extent possible, integrating all fire qualified personnel on the monument staff.

In an effort to continue to develop monument staff fire experience and qualifications, coordination will continue with the above units to utilize monument personnel on agency burn projects in trainee positions and as part of assigned fire modules (Hand crew, engine modules, etc.).

Funds will be sought through the annual fire management program budget submission to complete identified fuels treatment projects on the monument. Currently this is completed by the Fire Management Officer, GRTE and approved by the Superintendent FOBU. Agency resources, such as the GTP/BTF Interagency Fuels Management Crew or other local initial attack fire resources may be scheduled to complete fuels projects. Contract resources will be considered for implementation of funded fuels management projects in those cases where appropriate. Qualified staff will be required to administer any fuels management contract, including agency Contracting Officer and local technical representatives.



**Figure 3: Fossil Butte National Monument, Multi-Year Fuels Treatments**

#### **4.4.1.4 Monitoring**

All projects will have identified project objectives tiered from park resource or management plan goals and objectives. In accordance with current policy, assigned resources will monitor fuels, weather, fire behavior, and smoke concerns during project implementation. This data will be documented and included in the project file. Included in the implementation plan will be the strategies for monitoring and evaluation of project success. This program of monitoring is discussed further in Chapter 6, Monitoring and Evaluation.

#### **4.4.1.5 Critiques of Prescribed Fire Projects**

Documentation of prescribed fire implementation will include a narrative summary report compiled by the Burn Boss with input from various project resources (holding, ignition, monitoring, etc.). This will be included in the project file. Chapter 11 specifies program and project level critiques required under NPS policy. All units conducting prescribed fire and fuels treatment will conduct at a minimum a local level critique of project accomplishments each year that projects are implemented.

#### **4.4.1.6 Reporting and Documentation Requirements**

Project reporting and documentation is specified in the project implementation plan, including responsible parties and required timeframes. A complete project file will include the following

- A completed and signed burn plan, including any amendments and signed copies of both the Agency Administrator GO/NO GO Checklist and the Operations GO/NO GO checklist
- Completed and signed DI-1202, Individual Fire Report, including project map (completed within 10 days of the prescribed fire being declared out)
- Digitized project map
- WY-DEQ burn registration and reporting documents
- Fire Monitoring narrative report
- Detailed cost accounting spreadsheet, showing actual project costs as well as base costs absorbed through other accounts
- Burn Boss narrative report, and any unit logs
- Update to NFORS database showing costs and accomplishments

As described below, when a prescribed fire exceeds the prescription or project boundaries and cannot be controlled it is declared a wildland fire. Documentation and reporting requirements for wildland fires are described previously in this plan and would apply in this case. The prescribed fire critique and review should seek to determine what caused the project to exceed the project boundaries and/or prescription and apply lessons learned from this incident to improve future project design and implementation.

#### **4.4.1.7 Historic Fuel Treatment**

Since the monument was established in 1972 there have been no prescribed fires or mechanical fuel reduction projects undertaken. The limited fire history available for the area is included in Chapter 3, showing only one fire of significant acreage occurring during the summer of 1981. The most significant management actions relating to fuels on the monument have been the exclusion of fire as a result of an aggressive fire suppression program of both the park and surrounding BLM lands and the elimination of grazing on Monument lands since 1989. Proposed treatments as outlined above will be designed to counter the effects on fuel loading and uninterrupted vegetative succession that this policy has enabled.

#### **4.4.1.8 Prescribed Fire Burn Plan**

Prescribed fire burn plans are required for every prescribed fire application. The currently approved template for a prescribed fire is included in RM-18, Chapter 10, Fuels Management. In the case of an interagency project an approved plan will include all required elements described in NPS policy and require review and approval by the agency administrator.

#### **4.4.2 Exceeding Existing Prescribed Fire Burn Plan**

Every prescribed fire plan will include a section describing actions required if the fire should exceed project boundaries or prescriptive criteria. In many cases these instances will be temporary and short in nature. They will not cause the fire to be declared a wildland fire.

RM-18 Chapter 10, Fuels Management states that in the case of a prescribed fire exceeding project boundaries that cannot be controlled within one burn period utilizing project resources, the prescribed fire will be converted to wildland fire status. Upon conversion, suppression actions should be initiated, an incident commander assigned and selection of a new management strategy will be described in a Wildland Fire Situation Analysis. To the extent possible, pre-identification of resource needs, incident commander, and fire transition, including responsible parties for WFS planning should be made in the prescribed fire plan.

### **4.5 Non-Fire Fuels Treatment Applications**

#### **4.5.1 Mechanical Treatment and Other Applications**

##### **4.5.1.1 Annual Activities**

Planning for fuels projects is a collaborative process involving all park disciplines for project prioritization, education, design, goal and objective development, implementation, and monitoring. Once a project is proposed an interdisciplinary group will devise an implementation strategy to meet the project objectives including fire management and/or fuels treatment objectives, project boundaries, weather and fuel prescription, timing, areas of special concern, and monitoring and evaluation.

Since legislation was passed implementing the National Fire Plan, reducing fire risk to identified wildland/urban interface communities is a special emphasis area within prescribed fire and fuels management. A collaborative process has been underway between state, tribal, and local government officials with adjacent federal land managers to identify communities at risk and prioritize those areas for fire and fuels treatment. In Wyoming the State Forestry Division has published a list of communities at risk developed by federal land managers and their respective county representatives. This collaborative process is intended to be an ongoing effort with periodic reviews of completed projects and re-assessments of residential and infrastructure developments in and around federal lands. While no communities were identified immediately adjacent to Monument lands, the nearby developments in Nugget, Twin Creek, and Pomeroy Subdivision were listed as priorities for the BLM within Lincoln County.

The following list outlines annual activities that must be accomplished in order to successfully complete fuels management projects. This list is in addition to the prescribed fire annual list above.

- Update Five Year fuels management plan for mechanical fire treatments.
- Coordinate wildland urban interface projects, priorities, and standards for current and future community protection initiatives with all cooperating agencies.
- Coordinate with interagency cooperators and schedule work crews for project preparation, implementation, evaluation and monitoring.
- Program annual budget to authorized amounts and management priorities.

- Provide resource specialists with the updated prioritized project compliance list and maps for proposed contract work.
- Prepare project proposals and implementation plans for review and signature.
- Ensure all information required by Wyoming Dept of Environmental Quality is submitted according to current timelines for project permitting (as necessary for pile and debris burning).
- Submit budget requests and updates.
- Conduct field orientation trips with resource managers to further define project areas, goals and objectives.

#### **4.5.1.2 Equipment and Seasonal Use Restrictions**

Applicable equipment and season use restrictions previously described also apply to fuels reduction projects. See section specific restrictions found in Section 4.1.2 Minimum Impact Suppression Techniques, and Chapter 10 Protection of Sensitive Resources

#### **4.5.1.3 Monitoring**

All projects will have identified project objectives tiered from park resource or management plan goals and objectives. In accordance with current policy, assigned resources will project accomplishments implementation. This data will be documented and included in the project file. Included in the implementation plan will be the strategies for monitoring and evaluation of project success. This program of monitoring is discussed further in Chapter 6, Monitoring and Evaluation.

#### **4.5.1.4 Critiques of Non-fire Fuels Treatments**

Documentation of project implementation will include a narrative summary report compiled by the project lead. This will be included in the project file. Chapter 11 specifies program and project level critiques required under NPS policy. All units conducting fuels treatment will conduct at a minimum a local level critique of project accomplishments each year that projects are implemented.

#### **4.5.1.5 Reporting and Documentation Requirements**

Project reporting and documentation is specified in the project implementation plan, including responsible parties and required timeframes. A complete project file will include the following

- A completed implementation plan.
- Digitized project map
- WY-DEQ burn registration and reporting documents (if applicable)
- Monitoring narrative report
- Detailed cost accounting spreadsheet, showing actual project costs as well as base costs absorbed through other accounts
- Any unit logs
- Update to NFORS database showing costs and accomplishments

#### **4.5.1.6 Annual Planned Project List**

The five year project plan will be updated annually showing accomplishments and adding new projects to the list as necessary. Planning for fuels projects is a collaborative process involving all park disciplines for project prioritization, education, design, goal and objective development, implementation, and monitoring. Once a project is proposed an interdisciplinary group (IDT) will devise an implementation strategy to meet the project objectives including fire management and/or fuels treatment objectives, project boundaries, timing, areas of special concern, and monitoring and evaluation. As new projects are planned the IDT will complete an Environmental Screening Form to identify necessary additional compliance (NEPA, ESA, NHPA) prior to project initiation.

The five year project plan can be found in Appendix G and will be updated annually.



## **5 ORGANIZATIONAL AND BUDGETARY PARAMETERS**

### **5.1 Organizational Structure**

This section discusses areas of responsibility for implementation of the fire management program by specific Park position. There may be instances that the same person functions in two areas of responsibility, e.g., the Chief Ranger, Interpretation & Resource Management & Protection and the Park Fire Coordinator may be the same person. The purpose of this section is to clearly define areas of responsibility, provide clear direction and accountability, and further the development of a responsive fire management program.

#### **Superintendent**

Fire management at Fossil Butte National Monument is the responsibility of the Superintendent, with technical duties and accompanying responsibilities delegated to staff members. The Superintendent will be responsible for management of the program within Departmental and National Park Service policy, Director's Order 18 Wildland Fire Management (DO-18), and all relevant laws and regulations. They or their principal acting will meet the requirements for fire operations as identified in the Interagency Standards for Fire and Fire Aviation Operations, Chapter 3. They will:

- Ensure that a comprehensive fire management program is adequately planned, staffed, implemented, and that the Fire Management Plan is reviewed annually and revised as necessary.
- Secure funds and personnel needed to meet the objectives of the park's fire management program.
- Ensure all park divisions support the team effort to maintain a fire management program.
- Approve the park Fire Management Plan.
- Approve prescribed fire plans and DI-1202 Individual Fire Reports.
- Maintain and facilitates public and media relations pertaining to both suppression and prescribed fire.
- Ensure the use of qualified Resource Advisors on fires that continue into extended attack.
- Approve use of firefighting vehicles off road. This may include engines, dozers, and the like.
- Delegate limited authority to Incident Commanders and Prescribed Fire Burn Bosses for implementation of approved plans and emergency actions associated with fire activities as allowed by NPS policy.

#### **Acting Superintendent**

Is delegated all decision making responsibility when the Superintendent is absent from the Park.

#### **Chief, Interpretation & Resource Management & Protection**

Has overall responsibility for integration of fire management activities with other regular park operations and emergency incident operations. May concurrently fill the role of Park Fire Coordinator.

- Is delegated operational wildland fire management authority for the park.
- Ensures implementation and execution of all aspects of the Fire Management Program.
- Is responsible for reviewing the FMP annually and revising as needed.
- Recommends approval of the Fire Management Plan to the Superintendent.
- Responsible for overall coordination, direction, and supervision of wildland fire prevention, preparedness, and suppression. Has line authority over the Park Fire Coordinator, and coordinates all wildfire emergencies.

- Assures adequate fire-training opportunities are available to Park personnel to maintain predetermined fire qualification skills in critical positions. Reviews, and updates fire training and fire experience records. Submits updated records to the Area FMO.
- In consultation with the Area FMO, establishes fire training priorities for park staff and approves all fire training nominations
- Coordinates the implementation of this Plan with other governmental agencies administering adjacent lands and with local landowners. Develops and implements cooperative fire management agreements with other federal, state, and local agencies and with the local landowners.
- Maintains liaison with interagency cooperators through annual meetings to review agreements.
- Briefs the Superintendent on current and predicted fire management activity.
- Ensures that both a briefing statement and delegation of authority are prepared for incoming Incident Management Teams.
- Coordinates fire research efforts, and assures the assignment of a resource advisor for project fires or prescribed fires.
- Implements the annual prescribed fire program, including developing and conducting approved prescribed fires, with technical assistance provided by the Grand Teton NP fire staff.
- With assistance from Grand Teton NP staff, ensures the preparation of individual prescribed fire plans in accordance with RM-18, and submits each prescribed fire plan to the Superintendent for approval.
- Chairs the Park's Fire Management Committee, as such ensures interdisciplinary participation in planning and implementation of the Monument fire program including; participation in developing and reviewing prescribed fire and mechanical fuels reduction project proposals and annual FMP updates, contributing staff time to training and preparedness to meet incident staffing needs, participation on drafting WFSA's, Incident Management Team briefings, etc.

### **Park Fire Coordinator**

The Monument's Fire Coordinator is the identified position within the Fossil Butte organization that is responsible for completing the following tasks to NPS policy standards. There is no permanent position with the park organization devoted to this task. These collateral duties are assigned by the Superintendent, based on organizational workload and personnel skills, abilities, and incident experience.

- Responsible for day-to-day fire management program activities. Implements operational aspects of the Fire Management Plan and the annual FIREPRO budget.
- Maintains close coordination with GRTE Fire Management Officer or Chief Ranger, particularly during periods of elevated fire danger.
- Responsible for completing the prevention analysis to determine the level and type of prevention effort required by the Park.
- Ensures adequate inventory of equipment and supplies to efficiently implement the fire management program.
- Responsible for initial attack and implementation of appropriate suppression response.
- Responsible for the oversight of safe suppression of all wildfires, demobilization, and rehabilitation of the burned area.
- Advises and informs the Chief, Interpretation, Resource Management, and Protection of all fire activity information in priority manner.
- Coordinates dispatch of Park personnel for fire assignments and other incident mobilizations. Requisitions fire crews, or fire resources and supplies for use within the Park through established ordering procedures.
- Responsible for submission of fire situation reports to appropriate dispatch centers (Rawlins) and advises Wyoming Area FMO of park fire situation.

- Responsible for completion of all fire reports (DI-1202s) within 10 days of a fire being declared out or mobilized resources returning to home unit. Submits completed reports to Area FMO or AFMO for review, the Superintendent for approval, then to the Area FMO for entry into the DOI Shared Access Computer System (SACS).
- Maintains technical references, maps, and aerial photos for the fire program.
- Prepares necessary evaluation information for each fire, provides timely update of current and predicted fire behavior, and provides technical advice and recommendations to the Chief and Superintendent.
- Serves as a member of the park's Fire Management Committee

### **Fire Management Officer (FMO), Wyoming Area Parks**

The Fire Management Officer, Grand Teton NP has been assigned the duties of providing technical assistance and advice as needed to those non-FIREPRO funded NPS units within Wyoming, including Fossil Butte National Monument. The responsibilities of this assistance are outlined in the Area Park Agreement reviewed and signed every five years, Appendix G. Close coordination needs to occur between the FMO and their park staff.

- Reviews and advises the Superintendent on requests for emergency assistance, operational activities required for implementation of the Plan, and completeness and correctness of all required reports (DI-1202, Final Fire Report) plans (Prescribed Fire Plans), and agreements relating to fire management activities.
- Coordinates, prioritizes, and submits budget requests for Fossil Butte NM fire program activities.
- Maintains records for all personnel involved in suppression and prescribed fire activities, detailing individual qualifications and certifications for such activities.
- Ensures fire qualifications are updated in appropriate current databases.
- Issues incident command system qualification cards (Red Cards) for all incident qualified personnel.
- Issues incident management position taskbooks for personnel as appropriate, and completes agency certification upon completion of said taskbooks.

### **Park Ranger, Interpreter**

- Incorporates fire management information into interpretive programs, when appropriate.
- Provides fire information to park staff and visitors.
- Ensures accurate information is incorporated into park books, brochures, and exhibits.
- Provides for on-site interpretation of fires, when appropriate and deemed safe by the assigned Incident Commander (IC).
- May serve as Fire Information Officer, as appropriate.

### **Administrative Officer**

- Provides overall administrative support for the fire management program to include budget support, contracting, and purchasing.
- Serves as a member of the park's Fire Management Committee

### **Maintenance Worker Supervisor**

- Responsible for the maintenance of equipment and vehicles, including the park's wildland fire engine and fire cache inventory
- Serves as a member of the park's Fire Management Committee

### **Fire Management Committee**

The Fire Management Committee will be comprised of the Chief Ranger, Interpretation & Resource Management & Protection, Maintenance Worker Supervisor, Park Fire Coordinator, and the Administrative Officer. The Chief, Interpretation & Resource Management & Protection will chair the committee. The committee may request technical expertise from other individuals at any time, (such as cultural or natural resource specialists). Each committee member will designate an alternate to serve in the event that the normal representative is unavailable. The primary purpose of the committee is to set priorities and goals for preparedness, suppression, mechanical and prescribed fire activities between the Park's division's, and between the Park and cooperating agencies. In those instances where a decision is forthcoming the Fire Management Committee will recommend a decision to the Superintendent who has final authority over the program.

The Fire Management Committee shall meet at a minimum prior to and following each year's fire season. The Committee will determine objectives and needs of the fire management program for the coming year and to review the season and the Fire Management Plan, recommending revision as necessary. The team may be convened whenever fire danger indices indicate that fire presents a potentially serious risk to park resources. The committee may review the situation and determine an appropriate course of action, using the FMP, Resource Management Plan, and General Management Plan as guidance, as well as any prepared project implementation plans (Wildland Fire Situation Analyses, Prescribed Fire Plans, etc.) for going incidents. The Committee will meet to review and recommend any Delegations of Authority prepared for extended attack fire operations. The Fire Management Committee may also convene at the request of the Park Fire Coordinator, Chief, Interpretation & Resource Management & Protection, or Superintendent.

## **5.2 FIREPRO Funding**

Identification of a "typical" fire season, in addition to type and complexity of recorded fire management activities is utilized to determine and justify necessary base funding for a fire management program. As a stand alone unit the monument's size and historical fire load does not and likely will not justify the funding of a dedicated fire management organization at the park.

The current funding analysis program is FIREPRO, there are currently no FIREPRO-funded positions. FIREPRO does fund approved fire and hazard fuel reduction projects. FIREPRO funding is also authorized for approved fire training, preparedness activities, equipment, supplies, and personal protective equipment. FIREPRO funds also cover all suppression and emergency pre-suppression activities as well as wildland fire emergency stabilization and rehabilitation projects.

FIREPRO funds are managed through the Grand Teton NP Fire Management Office. Submission of a budget request for these discretionary funds is made in coordination with the Fire Management Officer, Grand Teton NP, according to the established budget call schedule. Requests for FIREPRO funding are made from the Park through the FMO, Grand Teton NP to the Intermountain Region Fire Management Office.

The FIREPRO budget process will soon be replaced by the Fire Program Analysis (FPA) system that is an interagency planning process, which will lead to most efficient organizations. Through the FPA program the park will seek logical joint fire planning associations with other units to provide the most effective and efficient fire management organization for the monument. The Superintendent will seek out opportunities and engage adjoining agencies in such planning efforts.

### **5.3 Interagency Coordination**

Memorandum's of Understanding has been developed and entered into with Lincoln County and the Wyoming Department of Forestry, for the purposes of fire management, fire suppression, and fire training. Appendix I.

An Interagency Agreement for Fire Management exists between the USDA-FS and the various DOI agencies (NPS, BLM, FWS, BIA). The objectives of this agreement are "to provide a basis for cooperation between the agencies on all aspects of fire management, and to facilitate the exchange of personnel, equipment, supplies, services, and funds between the agencies". The agreement directs local units to enter into cooperative agreements outlining shared administrative and jurisdictional responsibilities towards a cooperative fire management program. Such an agreement should be developed and entered into with the USFS-Bridger-Teton National Forest primarily and secondarily BLM-Rock Springs District. The purposes of these agreements will be for fire suppression, fire prevention, fire training, and support during prescribed fires. Contacts with these agencies should be made at least annually to discuss the aspects of the MOUs and the Park's fire management program.

### **5.4 Intra and Interagency Contacts**

A list of interagency contacts can be found in Appendix J and will be updated annually.

### **5.5 Fire Related Agreements**

- Interagency Agreement for Fire Management, NPS Agreement No. F0001030011 (USFS/BLM/NPS/BIA/FWS)
- Interagency Cooperative Fire Management Agreement, Agreement Number CA-H-1248-02-003 (WY State Forestry, BLM-WY, NPS-IMR, USFS-R2/R4, FWS-MPR, BIA-RMR)
- Wyoming Fire Restrictions Plan
- Lincoln County Annual Operating Plan
- Rawlins Interagency Dispatch Center Annual Operating Plan  
See Appendix I for Agreements and Annual Operating Plans



## 6 MONITORING AND EVALUATION

Monitoring and evaluation are vital for determining whether Fossil Butte National Monument's fire management program is meeting its objectives and overall goals. Monitoring within the context of fire management is defined as "the systematic process of collecting and recording data on location, fuels, topography, weather, fire behavior, fire effects, and smoke dispersal and concentration". It uses systematically collected, quantifiable data to compare the outcomes and objectives of management practices and natural processes. It also serves to identify trends and detect unforeseen consequences. Formal monitoring using established protocols is used at the project or event level. The National Park Service has a formal program for monitoring the effects of prescribed burns, which supports and guides these activities. This guidance can be found in the NPS Fire Monitoring Handbook. As the program at Fossil Butte National Monument is implemented a Fire Effects Monitoring Plan will be developed which will outline the monuments requirements and provides additional information. In addition to prescribed fire, the park has chosen to include monitoring guidelines for fuels and weather, large wildland fires, and mechanical fuels reduction.

Project monitoring is broken into four levels; Level 1 Fire Reconnaissance and Size-Up, Level 2 Environmental Conditions, Level 3 Immediate Post Fire Effects, and Level 4 Long Term Trends. These levels are sequential and build upon the information gathered in the previous steps. Not all monitoring efforts will continue through identifying long-term trends, however all fire management actions will involve at least the basics of information gathering.

Project or Operation	Level 1	Level 2	Level 3	Level 4
<b>Wildland Fire - Initial Attack</b>	Fire Size Up			
<b>Wildland Fire – Extended Attack</b>	Fire Size Up	Fire Situation Information, Weather/Fire Behavior reports	<i>Fire Severity mapping*</i>	
<b>Prescribed Fire</b>	Project description	Fire Monitor reports	Fire Effects plot and visit routine establishment (pre, post)	Plot data collection and analysis, multi year post burn visits
<b>Mechanical Treatments</b>	Project description	Fuel loading determined through ocular estimates and use of photo series, Brown's transects, and pre and post photo documentation	<i>Pre and post treatment documentation*</i>	
<i>*monitoring technique may potentially be used in addition to previously identified minimum levels</i>				

Formal monitoring data as well as other information are used in program evaluation. Data is analyzed, interpreted, and compared to objectives, costs, expectations, and experiences. These findings are shared with inter- and intra-agency partners. Monitoring and evaluation will be built into project identification, planning, and implementation schedules and approved by the Fire Management Committee.

Monitoring and evaluation are not only conducted at the project level. Overall program effectiveness is also considered as part of an "adaptive management" system. Annual work planning, interagency

coordination, and program reviews are used to regularly assess, verify and improve the fire management program.

## 7 FIRE RESEARCH

Every year additional literature is published that advances our knowledge regarding the social, economic, physical, and environmental impacts of fire. Monument resource specialists continually acquire and review scientific literature pertaining to fire ecology and the effects of fire on wildlife, plant communities, species of management concern, view sheds, public opinion, and other fire-related issues. The staff will adjust fire prescriptions whenever new research indicates adjustments are needed.

Even though several research needs are indicated, the fire management program at Fossil Butte National Monument will be implemented. This approach is acceptable because:

- Fire is recognized as an essential ecological process and agent of change that has affected the vegetation of Fossil Butte for thousands of years, and fire should be allowed to play a continuing role in the monument's natural processes.
- Sagebrush and other vegetation types need to be recycled on a large habitat and species range scale to assure that suitable habitat is continually renewed over time.
- The major impacts of fire on the vegetation types and the wildlife associated with those vegetation types on Fossil Butte are already known (Dorn, et al 1984, FEIS, 2003).
- Areas lacking information mandated by policy or regulation (for example, surveys for cultural or historical sites, or endangered species) will not be treated with prescribed fire until the required information is acquired.
- Project scheduling and burn size and pattern (mosaic of burned vs. unburned vegetation) for prescribed fires will be adjusted to reflect fuel abundance and moisture content, wildlife habitat needs, and weather conditions.
- Prescribed fires will be implemented conservatively, until expert opinion, published scientific data, and other pertinent research indicates that a less conservative approach is either advisable or acceptable.
- The species of wildlife that occur on the monument are sufficiently mobile, or sufficiently dispersed throughout the area to preclude any real benefit from not burning at all.
- Neither NPS biologists, U. S. Fish and Wildlife Service biologists, nor the Wyoming Game and Fish have identified any critical habitat for any threatened, endangered, or other species of management concern, including pygmy rabbits and sage grouse, within or in the immediate vicinity of Fossil Butte N. M.

Research indirectly related to fire effects has been conducted in Fossil Butte National Monument. Information on vegetation types and fire return intervals for Fossil Butte NM was acquired when Mountain West Environmental Services conducted a grazing impact study on the Monument (Dorn, R., R. Lichvar, and J. Dorn, 1984). The vegetation appears today, much as it appeared when the Mountain West study was conducted. Dorn and his coauthors reached the following conclusions:

- Seventy three percent of Fossil Butte NM is covered by three subspecies of sagebrush [Basin big sagebrush (*Artemisia tridentata* ssp. *tridentata*) – 31.4% coverage, low sagebrush (*A. arbuscula*) – 24.8% coverage, and mountain big sagebrush (*A. tridentata* *vasayena*) – 16.3% coverage]; mountain shrub, dominated by Serviceberry (*Amelanchier* spp.), has 7.9% coverage; grassland has 6.4% coverage; aspen (*Populus tremuloides*) has a 5.2% coverage; mixed timber has 2.9% coverage; wet meadow has 0.9% coverage; saline adapted vegetation has 0.5% coverage; cottonwood (*Populus angustifolia*) has a 0.1% coverage; and willow (*Salix* spp.) has 0.002% coverage.
- The remaining 3.5% of the monument is barren land which supports sparse vegetation and is probably incapable of carrying fire.
- Mountain snowberry (*Symphoricarpos oreophilus*) is a relatively abundant component of most of the shrub communities, and it is also common in the aspen understory. This shrub generally resprouts after being burned and its abundance indicates that fire was probably common here in the past.
- There is evidence of fire in every stand of conifers and many stands of sagebrush on the monument.

- Fire scarred limber pine trees (*Pinus flexilis*) indicate that there were fires in one stand of mixed timber in 1926, 1940, and 1952; another stand had fires in 1950 and 1967, and a third stand had fires in 1959, and 1964. There were fires in other stands of mixed timber in 1918, 1937, and 1943. A fire return interval ranging from 8 to 21 years was indicated for mixed conifers.
- Even aged stands of sagebrush frequently arise approximately ten years following fire in sagebrush communities (Passey, H., V. Hugie, E. Williams, and D. Ball, 1982, cited in Dorn et al 1984). Even aged stands indicate that fire burned one stand of low sagebrush in 1929, another in 1947, and a third in 1958. Two stands of mountain big sagebrush burned in 1935, and two more stands burned in 1936. Stands of Basin big sagebrush burned in 1927, 1928, and 1935. The aerial extent of these historic fires was not determined.
- The last wildfire on the Monument occurred in 1981 when 260 acres burned. The fire affected stands of low sage, mountain big sage, and mixed shrub. Unburned sagebrush adjacent to the burned area was of uneven age suggesting that the fire had consumed vegetation that had not been burned for a considerable length of time.
- Although 100-year old sagebrush plants are relatively common (Passey, et al 1982), the oldest sagebrush examined on the monument was only 66 years old in 1984.

Dr. Dorn and his coworkers (1984) sampled the vegetation on (and adjacent to) two areas where the BLM conducted prescribed burns in 1982. The two burn areas examined were located approximately three miles from the Fossil Butte NM boundary. One burn was a spring burn the other was a fall burn. The researchers located multiple line transects in the two burned areas and in unburned vegetation immediately adjacent to the burned areas.

The area burned in the fall of 1982 appeared to have burned hotter than the area burned in the spring. Both burns killed mature sagebrush, increased coverage of perennial grasses, and slightly decreased coverage of perennial forbs. A few sagebrush seedlings were observed on the spring burn site, but none were observed on the fall burn area.

The Fire Management Committee will identify and prioritize needs for more information about fire ecology, effects of fire, and wildlife habitat. Fire's role within the Monument is generally understood within the various vegetative communities with the compounding questions about exotic species, wildlife utilization, species of management concern, and cultural resource protection not well understood. The following fire-related research priorities have been identified:

**Pygmy rabbits:** The occurrence of pygmy rabbits (*Brachylagus idahoensis*) on Fossil Butte NM has been documented (Gruver, J., 2003, Katzner, T., 2004), and these rabbits are known to be quite widely distributed throughout Southwest Wyoming (Lara Oles, personal communication). The pygmy rabbit is a species of management concern because it appears to be at risk throughout much of its range. It is a sagebrush specialist or obligate species (Heady, L., K. Gabler, & J. Laundre, undated; Katzner, T., and K. Parker, 1997; Tesky, J., 1994) that prefers stands of sagebrush with taller, wider shrubs that provide high coverage. Pygmy rabbits also appear to prefer stands of sagebrush that have deeper, sandier soils (Weiss, N., & B. Verts, 1984; Heady, L., K. Gabler, & J. Laundre, undated). Preferred habitat on Fossil Butte had deeper soils and a higher component of dead shrubs when compared to other stands of sagebrush (Katzner, T., and K. Parker, 1997).

A higher density of living and dead shrubs suggests that pygmy rabbit habitat could be more susceptible to fire than uninhabited stands of sagebrush. Shrub height, shrub density and soil depth varies considerably within stands and among of vegetation on the monument dominated by sagebrush. This probably accounts for the fact Katzner observed the monument's pygmy rabbits to be unevenly distributed (Katzner, T. 1994). Heady et al. (undated) proposed that although every stand of big sagebrush is not suitable habitat for pygmy rabbits, management practices intended to conserve the species should focus on identifying habitat on a large scale.

The behavior and habitat requirements of the pygmy rabbit led Hadley Roberts to conclude that any agent that removed favorable sagebrush habitat for pygmy rabbits was detrimental to their survival (2001). The pygmy rabbit is believed to be highly susceptible to habitat fragmentation because of its inability to disperse over long distances and its reluctance to cross open spaces (Katzner, T., K. Parker, 1997, and Weiss, N., & B. Verts, 1984). John Holcheck (1981) also suggested that practices that removed sagebrush fragmented pygmy rabbit habitat and had probably contributed to the species decline.

Although Roberts did not recommend practices that fragmented pygmy rabbit habitat, he did observe higher numbers of pygmy rabbits where there was “taller denser sagebrush on mounded islands surrounded by an expanse of shorter sagebrush (p.9)”, than there was “in the more homogenous sagebrush areas (p. 10).” Roberts’ findings suggest that fire used to break dense uniform stands of sagebrush into parcels of dense sagebrush surrounded by shorter vegetation would benefit the pygmy rabbit. Another foreseeable benefit to the rabbit is that the mosaic created by fire prescriptions should prevent the occurrence of large, hot, stand-replacing fires capable of destroying extensive areas of preferred pygmy rabbit habitat. This suggests that fire can be managed in ways that help sustain pygmy rabbit populations, but more research is needed to determine the extent to which fire can be used to promote pygmy rabbit sustainability.

A study is needed to delineate critical habitat for pygmy rabbits on Fossil Butte N. M. Research is needed that leads to the development of management practices that sustain the pygmy rabbit’s presence, and assure that its future habitat requirements are met. The extent to which pygmy rabbits utilize burn mosaics created during the initial implementation of the FMP needs to be determined. In December, 2004 a research proposal was funded by the NPS to study pygmy rabbit distributions within the mosaic created during the initial burn proposed in this plan. The project will also identify other areas of the monument utilized by pygmy rabbits.

**Sage Grouse:** The greater sage grouse (*Centrocercus urophasianus*) is another sagebrush obligate species of management concern at Fossil Butte NM, and elsewhere throughout its historical range. Sage grouse populations have declined significantly during the past 100 years (Braun, C., 1998). Habitat loss from urban and agricultural development, overgrazing, altered fire regimes, and recreation appears to account for the population decline throughout much of the West (Miller, R., & L. Eddleman, 2001). In Wyoming, sage grouse populations have declined by 30% since 1900 (BLM, 2000; Wyoming sage grouse working group, 2003). The rate of decline across the specie’s range has slowed significantly since 1986 (News release, 2004). In Wyoming, the Game and Fish Department has lowered the daily bag limit (from 3 to 2) and possession limit (from 4 to 3) for sage grouse, but it still considers the population large enough to allow hunting.

Habitat fragmentation and declining sage grouse populations have resulted in the filing of at least seven petitions to afford the sage grouse protection under the Endangered Species Act (BLM, 2003). In December, 2004, Steven Williams, director of the United Fish and Wildlife Service announced that departmental biologists concluded that the greater sage-grouse did not warrant special protection throughout its range under the Threatened and Endangered Species Act (News release, 12/3/2004). Although the official decision will not be issued until December 29, 2004, it is highly unlikely that the sage grouse will be listed at this time. Sage grouse, however, will remain a species of management concern at Fossil Butte N. M.

Sage grouse appear to require habitat comprising stands of sagebrush that vary considerably in species composition, age, structure, density, and coverage (Wyoming sage grouse working group, 2003; Miller R., & L. Eddleman, 2001). Winter habitat differs from summer habitat, breeding habitat, and brood-rearing habitat (Connelly, J., M. Schroeder, A. Sands, and C., 2000). Winter, nesting and brood-rearing habitat on the monument has not been delineated.

Fire can affect sage grouse habitat favorable or unfavorable depending on a diversity of physical and environmental conditions, including but not limited to vegetation structure, weather, fuel moisture content, and the season in which the burn occurs (McWilliams, J., 2002). Miller and Eddleman (2001) recognized four factors that determine whether fire will have a negative or positive impact on sage grouse habitat; site potential, site condition, limiting functional plant groups, and pattern and/or scale of the burn mosaic.

Although fire can have negative impact on sage grouse, Steven Slater (2003), in a study conducted near Fossil Butte N. M., observed sage grouse nesting and rearing their broods on areas affected by fire as recently as 1999. Slater concluded that the prescribed burns in his study area would not represent a long-term negative impact to nesting sage grouse as long as sufficient nesting habitat (structurally adequate shrub cover) remained in the area or became reestablished within a few years following a fire. He recommended that sagebrush be burned in strips 120 m wide to provide suitable habitat for sage grouse during the spring and summer.

Connelly, et al (2000), provided for the restoration of degraded sage brush habitat in the vicinity of active leks, which is what the prescribed fire program at Fossil Butte can accomplish. Connelly and his coauthors also recommend treatments that do not exceed 20% of the breeding habitat.

The preceding discussion implies that burns resulting in a small scale mosaic can be implemented without additional research, but resource managers should refrain from conducting burns likely to result in larger scale mosaic until more is known regarding the local sage grouse population.

One lek complex (courtship ground) is located on the monument. Research is needed to determine whether or not the grouse attending this lek complex have important winter habitat, nesting habitat, and brood rearing habitat on or near the monument. Although a recently submitted sage grouse research proposal was not funded, the monument staff will continue to submit proposals directed towards research aimed at determining the location of significant nesting, brooding, and winter habitat on Fossil Butte NM. Research directed at determining sage grouse utilization within the fire mosaic created by the prescribed fire scheduled for 2005 will also be pursued. Monument resource and fire management specialists will continually review relevant research for information that enhances the design and implementation of fire prescriptions to the benefit of the local grouse population. If fire is prescribed in high-use sage grouse habitat, post-fire monitoring will include methods to determine the impact of the burn on sage grouse use. Limited funding for pre- and post-burn vegetation monitoring is available through the NPS Fire Pro program.

**Plant Species of Special Concern:** Several plant species that occur on Fossil Butte NM have been designated “plant species of special concern” by researchers from the Wyoming Natural Diversity Database (Fertig, W., 2000; Keinath, D., B. Heidel, & G. Beauvias, 2003), see Appendix A. Inventories are needed to determine the distribution of the six plant species of special concern that occur on the Monument. Additional research to determine the effect of fire on these species is also needed.



## **8 FIREFIGHTER AND PUBLIC SAFETY**

**Firefighters and the public will be protected from injury or undue threat from wildland fire management, prescribed fire or fuels management activities.**

### **8.1 Firefighter Safety**

Firefighting is inherently dangerous and requires all personnel involved to exercise caution and judgment. Prevention of injury is the overriding consideration during all operations. It is the responsibility of each and every person involved in an operation to ensure safety. If any action cannot be carried out safely, another action must be utilized. At no time will the protection of resources be placed before the safety of fire management personnel.

All operations shall be carried out in accordance with established safety practices as set by *Reference Manuals 18, 58, and 60*, the Fireline Handbook (NWCG 410-1), the Interagency Standards for Fire and Fire Aviation Operations, OSHA, agency policy, and the park safety plan. The fire coordinator is responsible for the establishment of Job Hazard Analyses (JHA's) which are written descriptions of hazards and corresponding mitigations for fire operations. They will regularly review, modify, and update JHA's. The established JHA's will be readily accessible for firefighters for integration into fire operations.

Firefighters will only be allowed on an active wildland fire after receiving proper equipment and training as specified in Reference Manual-18. This includes an annual eight-hour wildland fire safety refresher. Instructors for the safety refresher class will be qualified as a single resource boss. Employees failing to attend will not be allowed on the fireline until class completion.

Wildland firefighters must meet minimum physical standards for their assigned incident position, as defined in NWCG 310-1 "Wildland Qualifications Subsystem Guide." Physical fitness/work capacity tests for wildland firefighters and other fire-qualified employees will consist of the "pack test." Arduous duty medical exams must be taken according to current policy standards (the Rocky Mountain Geographic Area which Fossil Butte is a part of is scheduled to implement the Federal Interagency Wildland Firefighter Medical Qualifications Standards in FY 2006). The exams only include various tests and components prescribed according to the employee's age and required fitness levels.

On all fire management actions, terrain, fuel conditions, and fire danger will be considered when determining the appropriate response.

#### **Aviation Program**

A qualified aviation manager will manage air operations and assure that they are performed in accordance with Federal Aviation Administration rules and regulations, the Department of Interior departmental manual, and NPS Aviation Management Policy as outlined in Reference Manual #60.

### **8.2 Public and Employee Safety**

During fire management actions, extreme fire danger or drought, fire restrictions and emergency closures may be needed to ensure public safety. These restrictions can also reduce the possibility of human-caused fires. Emergency closures (i.e. trails in a fire area) and evacuations may be declared by an incident commander to prevent imminent danger. Longer term restrictions or closures (i.e. Stage 1, Stage 2 fire use restrictions) will be coordinated with interagency cooperators and a special order will be approved by the park superintendent. Public information will be coordinated and up to date for all restrictions and closures and distributed appropriately through press releases and signage.

When a fire threatens visitor or employee safety, employees must be given as much advance notice as possible in order to achieve orderly evacuation.

During certain fire operations (such as prescribed fires or fire use projects), the parks may keep trails open and allow visitors access to the fire area. Firefighters, interpreters, and information officers on scene will answer questions and give safety messages to the public. Firefighters or other red carded park staff may also serve as escorts through fire areas. The parks will supply media representatives with personal protective equipment (PPE) when needed.

### **Affected Environment**

Within the Monument there are several areas of special concern which range from paleontological resources, cultural resources, T&E species, visitor use areas (trails, picnic areas, one way in/out roadway), and developments.

The monument has identified areas that present high risk to the public. These areas are either developed areas, have concentrated visitor use or are major highways. They are the Visitor Center, the picnic area, and the Fossil Lake and Historic Quarry trails.

Identified cultural and natural resources at risk are as follows: Haddenham cabin, sage grouse lek/nesting areas, and critical pygmy rabbit habitat (currently unidentified).

Mitigations to these areas of risk are as follows.

- Develop a prioritized mechanical or prescribed fire treatment plan for high risk areas.
- Impose temporary closures during very high and extreme conditions.
- Distribute informational fliers to park staff and visitors, including information on temporary closures, fire danger, and areas of concern.

## 9 PUBLIC INFORMATION AND EDUCATION

The National Park Service has a long tradition of fire suppression within units of the National Park System and for many years supported a philosophy that all fires should be controlled as quickly and as completely as possible. The general public has largely accepted this fire management strategy, heightened by the tremendous popularity of the Smokey Bear Program. Consequently, new policies and program changes have caused confusion and apprehension for some in regard to current fire management practices. The Monument is committed to the expansion of ongoing efforts to educate employees and the public about the scope and effect of wildland fire management, including fuels management, resource protection, prevention, hazard/risk assessment, mitigation and rehabilitation, and fire's role in ecosystem management. They are dedicated to providing fire information and education for a variety of audiences while maintaining a level of service that is consistent with the park's professionalism. The public information and education program focuses on the following:

- To provide education on fire management and fire ecology;
- To work within and promote the interagency relationship established with the Rock Springs District – BLM, Bridger-Teton National Forest and the South Lincoln County Fire District;
- To provide accurate and timely incident information for local, regional, and national fire operations as needed;
- To provide local communities, park residents, park employees, and permittees with information on fire safety, fire prevention, defensible space, and fuels management.

The Public Education & Information program will utilize the major goals of the Fire Management Plan to increase public awareness and support of the Fire Management Program and will complement national fire communication strategies.

An important reference for fire information work is the *Standard Operating Procedures for Fire Information* guide (Iverson 2004). Specific operational procedures (checklists, web update information, etc.) are outlined within this document.

### 9.1 Communication Methods

#### Personal Services:

- **Interpretive Programs** - The Interpretive Division will integrate fire messages into hikes, tours, displays, site bulletins, and campfire programs. Relevant fire literature and information will be shared with the interpretive. Support for this program will be provided by the Grand Teton National Park Fire Prevention, Education and Information Specialist.
- **Employee Training** - The Fire Coordinator will ensure that the fire and fuels management programs are addressed at employee training sessions to improve staff understanding of fire management in the monument.
- **Education Programs** - The Fire Coordinator will work with Grand Teton National Park's Education Specialist to develop programs and incorporate fire ecology concepts into curriculum-based education programs, summer day camp programs, and teacher workshops.
- **Roving** - During fire operations, park employees (including temporary hires, interns, interagency partners) will be stationed when possible at strategic locations to answer questions about the current fire activity and/or explain the fire management program.
- **Public Meetings** - The park may conduct special public meetings related to a specific fire events, planning efforts, etc.

### **Non-Personal Services:**

- **Web Information** – Grand Teton National Park Fire Education, Prevention, and Information Specialist will assist in maintaining appropriate fire management information links to the Fossil Butte National Monument web page.
- **Media Stories** - The Fire Coordinator will communicate with print, radio, and television outlets through press releases and interviews. This will be coordinated with the Public Affairs coordinator.
- **Printed Handouts** - The Fire Coordinator will include fire information in regular publications such as the annual newspaper, as appropriate;
- **Visitor Center Exhibits, Waysides, and Bulletin Boards** - The Fire Management Committee will determine where and when interpretive information will be used in visitor centers and wayside exhibits. This may include both permanent and temporary bulletin boards both inside and outside the park.

### **9.2 Evaluation:**

The Fire Education, Prevention and Information Specialist with the Fire Coordinator will prepare an annual report that documents the accomplishments for the year. This report will be presented to the fire management committee, the Area FMO, the regional Fire Management Office in Denver, and to the national communications program in Boise.

### **9.3 Step Up Activities:**

Public Information Step-Activities may include the following:

- **Public Service Announcements (PSAs)** - Both radio and television PSAs may be utilized to convey a variety of key messages during fire season.
- **Newspaper Advertisements** - Newspaper ads may be utilized to convey a variety of key messages during fire season. The Grand Teton National Park Fire Management Office has funding to provide assistance.
- **Interagency Coordination of Fire Danger Levels** - Interagency fire managers work together to coordinate the implementation of partial or full fire restrictions. A checklist should be developed to note locations where signs may be posted when fire danger levels escalate, asking park users for extra caution to reduce human-caused ignitions.
- **"Trapline" for Fire Information** - A list should be developed of park and neighboring facilities and locations where fire information updates, posters, maps, etc. should be distributed when appropriate.
- **Staff Email** - Regular staff updates on fire activities keep internal audiences informed and give them updated, accurate information to share with park visitors and local residents.

- **Utilization of Park Interpretive Staff** - The interpretive staff will be utilized when possible to assist with roving contacts during fire activities to provide fire information updates at programs and visitor centers. The interpretive staff receives early season training on the park's fire management program and fire information resources online.



## 10 PROTECTION OF SENSITIVE RESOURCES

An underlying principle of the fire management program within the NPS is to manage fire operations commensurate with values at risk. In many cases the effects of fire management actions can be more destructive on park resources than the effects of the fire itself. The adoption of Minimum Impact Suppression Tactics is aimed at minimizing this possibility. These tactics are described in Chapter 4 and elaborated on in Appendix C.

The following conditions are representative of a sound, resource based, and sustainable fire management program in place at Fossil Butte National Monument.

- No unacceptable impact to cultural, paleontological, natural resources or T&E species will occur.
- Fossil resources are protected from human-induced damage for future scientific and interpretive purposes. Fire management actions do not adversely impact fossil resources.
- Consultation pursuant to §7 of the Endangered Species Act and §106 of the National Historic Preservation Act is initiated to ensure that proposed actions would not adversely affect endangered species and cultural resources.
- Vegetation communities in Fossil Butte NM are restored and would maintain long-term ecological diversity and stability, with fire-dependent communities sustained by fire and fire intolerant communities protected from unwanted wildland fire.
- Federal and state-listed threatened and endangered species and their habitats are sustained. No fire management actions jeopardize the continued existence of listed or candidate species or adversely impact critical habitats.
- Soil stability and fertility are perpetuated. Soil stability and fertility in the long-term are not decreased as a result of fire management programs and practices.
- Air quality related values are protected from pollution sources emanating from within and outside park boundaries. Park management activities do not violate federal and state air quality standards.
- Water resources are protected from pollution sources or flow disruption from causes originating within or outside park boundaries. Park management activities do not violate federal and state water quality standards.
- Wetlands retain their natural function. Changes within floodplain and wetlands remain within the range of natural variation.
- Visitor activities are not substantially disrupted by fire management activities. The quality of visitor experiences, particularly with respect to scenic vistas, is not adversely impacted by smoke or other fire management activities.
- Ungulate species are considered when planning mechanical and prescribed fire implementation actions.

Management constraints which would further mitigate potential adverse impacts to sensitive resources include:

- The use of foam or chemical retardant on the monument should be limited to those areas away (greater than 300') from permanent streams, springs or wetlands in order to minimize the chance of these agents negatively affecting aquatic resources.
- Fire retardant, if used, must be on the approved list of retardants used by the U.S. Forest Service and USDI Bureau of Land Management.
- Motorized equipment would not normally be used off established roadways in the monument. However, due to rapid rates of spread and the emergency nature of fires near the boundary, off-road use of motorized equipment, such as all-terrain vehicles and wildland fire engines, may be authorized by the Superintendent.
- All extended attack and prescribed fire operations would have a park employee designated and available to assist suppression operations as a Resource Advisor. If qualified employees are not available, a Resource Advisor would be ordered through the interagency dispatch system.

- Helicopters may be used to transport personnel, supplies and equipment. Improvement of landing sites would be kept to a minimum and would include consultation with the assigned Resource Advisor. Helibases and landing sites within the monument would be rehabilitated to pre-fire conditions to the extent reasonably possible.
- Except for spot maintenance to remove obstructions, no modifications would be made to roadways, trails, water sources, or clearings. All sites where modifications are made or obstructions removed would be rehabilitated to pre-fire conditions to the extent reasonably possible.
- Earth moving equipment such as tractors, graders, bulldozers, or other tracked vehicles would not be used for fire suppression or prescribed fire. If special circumstances warrant extreme measures to ensure protection, the Superintendent may authorize the use of heavy equipment.
- Fireline location would avoid sensitive areas wherever possible.
- Following fire suppression activities, firelines would be re-contoured and water-barred.
- As a matter of practice, burned areas would not be reseeded unless there were overriding concerns about establishment of invasive nonnative species. Any reseeded would be with native species and occur only with the Superintendent's prior approval.

The environmental assessment prepared in conjunction with this plan detailed expected effects of the proposed action. Effects to key topic areas were described as well as specific effects to T & E species, and cultural and historic properties as required under the Endangered Species Act and the National Historic Preservation Act respectively. The following table summarizes concerns and subsequent actions to be taken in either planned or unplanned events in regards to the protection of sensitive resources.

Resource Type	Element	Value at Risk	Activities	FM Objectives	Treatments or Prescriptions
Soils	Steep slopes, >3:1, soils in the Chicken Creek drainage	Increased erosion	Ground disturbance	Avoid disturbance	Locate firelines in areas of less than 3:1 slope, and/or rehabilitate firelines on slopes with water bar construction and replacement of vegetative material
Plant Species	Invasive	Increased cover and Spread	Ground disturbance, seed transportation	Avoid disturbance, control spread	Limit planned disturbances in known infestations, clean vehicles and equipment coming in from out of the area
	Sensitive (Federal T&E or state listed)	Elimination	Ground disturbance, plant mortality or consumption by fire	Avoid disturbance,	Plan fire management treatments to fit within phenological constraints or advantages of known populations
Cultural Resources	Archaeological resources	Feature integrity	Ground disturbance, loss of concealment	Avoid disturbance, suppression	Survey, pre-treatment, use of a resource advisor, placement of line construction

Resource Type	Element	Value at Risk	Activities	FM Objectives	Treatments or Prescriptions
	Historic structures	Feature integrity	Consumption or loss of key features from fire	Reduce adjacent fuels, suppression	Survey, pre-treatment (fuel reduction, structure wrapping, use of water or foam), use of a resource advisor, line construction, photo documentation
Paleontological Resources	Fossils	Feature integrity, radio carbon date contamination	Ground disturbance, carbon loading from fire	Avoid disturbance, reduce fuels	Vehicle use, use of a resource advisor, line construction, pre-treatment
Wildlife	Sage grouse	Habitat loss, direct mortality	Shrub consumption or direct mortality on nestling birds from fire	Habitat management through suppression and prescribed fire	Prescribed fire, no disturbance within nest areas between 3/1-6/30
	Pygmy rabbits	Habitat loss	Shrub consumption from fire	Habitat management through suppression and prescribed fire	Prescribed fire and fire suppression



## 11 FIRE CRITIQUES AND ANNUAL PLAN REVIEW

The fire management program at Fossil Butte National Monument will engage in a program of adaptive management and instill a continuing learning environment. The purpose being to learn through experience as issues are identified and resolved. The following guidelines will establish a procedure to enable the continuing improvement of the program.

### Plan & Program Reviews

The Chief Ranger, Interpretation & Resource Management & Protection, in conjunction with the Fire Management Officer, Grand Teton NP will review the Fire Management Plan annually for currency and incorporate changes into the plan by way of an annual amendment. This amendment will be prepared prior to the initiation of fire season, reviewed by the Fire Management Committee and approved by the Superintendent. The fire management plan is subject to formal review every five years to ensure program compliance and NEPA currency.

Operational “Readiness” reviews are to be conducted annually. An interagency accepted series of program checklists is available to cover all aspects of a unit’s fire management program. Only those checklists appropriate to the Monument’s fire program need to be addressed. Reviews will ensure operational readiness of equipment and personnel, currency and adequacy of local MOU’s and interagency agreements, and understanding of agency policy and park staff responsibilities as outlined in this plan. These reviews can be conducted “in-house”; however general guidelines are to include the local interagency community at a minimum. Any unit conducting or planning to conduct fuels management activities in the upcoming year will undertake a fuels program review annually. This review should be conducted by the Chief Ranger, Interpretation, Resource Management & Protection and include relevant resource management staff and local cooperators, as applicable.

The Fire Management Officer, NPS-Intermountain Region and/or NPS-Fire Management Program Center periodically initiate full program and fiscal reviews of park fire management programs reaching pre-identified complexity levels. Current policy does not call for fire program reviews of programs with the complexity level of the fire program at Fossil Butte National Monument. The level of assistance and technical advice provided to Fossil Butte under the Wyoming Area Parks FMO agreement should be covered whenever a program review is completed at Grand Teton NP.

### Incident Reviews

Wildland and prescribed fires will initially be critiqued by the Incident Commander or the Burn Boss and engage as many operational personnel as logistically feasible. This review should take place in a timely manner to address issues as they remain fresh in the mind. The “After Action/After Incident Review” format is suggested as a well structured template for bringing out issues and identifying lessons learned.

A more in-depth review will take place on those incidents (wildland or prescribed fires) of significant size, cost, or where minor safety issues or minimal levels of public concern occur. This review will be initiated by the Superintendent and will be conducted by appointed fire management personnel with knowledge and experience commensurate with the complexity of the incident under review. These findings should be forwarded to the Regional Fire Management Office.

Prescribed or wildland fires involving an Incident Management Team or significant political, safety, or public issues should be reviewed by the Regional Fire Management Office. If a fire generates a major political or public concern, involves multiple serious injuries or a fatality, the Fire Management Program Center should conduct or participate in the review.

Reference Manual -18, Chapter 13 defines additional situations warranting reviews, identifies responsibilities and provides sample review formats and checklists for formal reviews.

### Timeframes and Responsibilities for various program and incident reviews

Review Type	Timeframe	Intent/Objectives	Responsible Party
Fire Management Plan	Annually	Assure effectiveness of the Plan in meeting goals and objectives of this and the Park's General and Resource Management Plans, assure currency and compliance of FMP with NEPA requirements	Fire Management Committee
Readiness	Annually (pre-season)	Ensure operational readiness of firefighting resources	Fire Coordinator
Program	As needed	Assure compliance with established NPS standards	Fire Management Officer, Intermountain Region
After Action Review (AAR)	Post-incident, after each operational period	Review operational effectiveness, learn lessons	Incident Commander, or Burn Boss
Incident Review	Post-incident, as needed	Constructive critique to determine facts of incident	Superintendent

## 12 CONSULTATION AND COORDINATION

Contributors and reviewers of the Environmental Assessment and Plan are as follows.

<b>Consultation</b>	<b>Consultation</b>
<b>Federal Agencies</b>	<b>Other Organizations and Individuals</b>
U.S. Fish and Wildlife Service	Wyoming State Senator Delaine Roberts, District 16
Bureau of Land Management	Jon Child
Bridger-Teton National Forest	Don, Failoni, Failoni Land and Livestock
National Park Service State Coordinator & Regional Office	
<b>Tribal Governments</b>	Robert Fox
Shoshone Tribal Council	Truman Julian, Julian Land and Livestock
Shoshone Cultural Office	Ernest Thornock, Thornock Ranch
Shoshone-Bannock Tribal Council	Jon Marvel and John Carter, Western Watersheds Project
Shoshone-Bannock Tribes	Susan Hunzie
Northern Arapaho Business Council	Darrel J. Short
Ute Tribe Business Council	Mildred Parks Revocable Trust
Ute Tribe Cultural Resources	Ronald Thompson, Thompson Land and Livestock
<b>State and Local Governments and Agencies</b>	Wyoming Wildlife Federation
Wyoming State Historic Preservation Officer	National Wildlife Federation
Wyoming Game and Fish Department	Wyoming Outdoor Council
Wyoming Department of Agriculture	William Laycock, Univ. of Wyoming Range Department
Office of State Lands and Investments	Norris Tratnik
Wyoming State Grazing Board	Stan Cooper
Lincoln County Commission	Union Pacific
Bear Lake Regional Commission	Northwest Pipeline Corp.
Lincoln County Conservation District	Richard Lewis
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## APPENDIX A – FMU Biotic Characteristics Detailed Description

### Sensitive Plant Species

The following six plant species have been identified by the Wyoming Natural Diversity Database as “species of special concern”.

Sodaville milkvetch (*Astragalus lentiginosus* var. *salinus*) is a short-lived perennial forb. Wyoming populations are found in big sagebrush communities on rocky clay slopes and ridges below rimrock at elevations of 6,540-6,800 feet. Population trends are unknown. Principal threats include soil displacement and compaction by off-road vehicles and competition from exotic species. The plant is regarded as a low conservation priority.

Martin ceanothus (*Ceanothus martini*) is a non-thorny multi-branched low shrub. Wyoming populations occur on steep sagebrush slopes or mountain shrub communities on shallow-stony or hard clay soils at elevations of 7,600-8,080 feet. Population trends are not known. Principal threats include road construction, off-road vehicles and grazing. The plant is regarded as a low conservation priority.

Western dodder (*Cuscuta occidentalis*) is a rootless, annual parasitic herb. Wyoming populations occur in mountain big sagebrush slopes or mountain shrub communities at elevations of 6,400-7,600 feet. Population trends are not known. Principal threats include efforts to eradicate agricultural pests. The plant is regarded as a low conservation priority.

Entire-leaved peppergrass (*Lepidium integrifolium* var. *integrifolium*) is a perennial forb. Wyoming populations occur in sparsely vegetated and seasonally wet clay flats, greasewood communities on clay hummocks, and moist alkaline meadows at elevations of 6,200-6,770 feet. Population trends are not known. Principal threats include human development. The plant is regarded as a high conservation priority.

Ternate desert-parsley (*Lomatium triternatum* var. *anomalum*) is a pubescent perennial forb. Wyoming populations occur on ridgetops or slopes of brown clay-humus soil at elevations of 7,850-8,080 feet. Population trends are not known. Populations may be moderately threatened by natural erosion and landslides. The plant is regarded as a medium conservation priority.

Tufted twinpod (*Physaria condensate*) is a prostrate, rosette-forming perennial forb, a narrow endemic of the southern Overthrust Belt and lower Green River Basin in southwest Wyoming. Populations occur on dry, rocky calcareous knolls and ridges, clay banks, and shaley hills in sparsely vegetated cushion plant communities in openings within sagebrush grassland at elevations of 6,700-7,400 feet. Population trends are apparently stable. Threats are apparently minimal, though development associated with mineral exploration may be a potential short-term threat. The plant is regarded as a high conservation priority.

**Note:** At the time of publication of the Fire Management Plan Environmental Assessment the Wyoming Natural Diversity Database listed eight species of concern as occurring at Fossil Butte. The current list for 2004 no longer considers Wasatch biscuitroot (*Lomatium bicolor* var. *bicolor*) and Payson beardtongue (*Penstemon paysoniorum*) as species of concern.

None of these species have legal protection under the Endangered Species Act. By policy, however, the NPS protects habitat for state-identified sensitive species. The locations of most occurrences of tufted twinpod are known, and a map of the sites where this plant grows will be available prior to the fall of 2005 when the first burn under this plan will occur. Martin ceanothus occurs in only one location on the monument. Both species grow on or immediately adjacent to slopes that exceed a gradient of 3:1. Habitat for tufted twinpod and Martin ceanothus will be protected because prescribed fire is not proposed for 3:1 slopes. Tufted twinpod also occurs where vegetation is generally too sparse to carry fire.

## **APPENDIX A – FMU Biotic Characteristics Detailed Description**

The distribution of entire-leaved pepperweed has been mapped. It grows in small stands located in saline areas where the vegetation is usually too sparse to carry fire. Fire will be excluded from areas where entire-leaved pepperweed is known to occur.

Payson beardtongue has been observed primarily where the Wasatch formation forms the badlands that support very little vegetation. Badland areas are not expected to carry fire. Payson beardtongue also grows in areas dominated by low sagebrush. Only a small portion of the low sagebrush community on the monument is expected to carry fire. Also, stands of vegetation dominated by low sagebrush will not be ignited deliberately. The lack of fuel and low amount of shrub cover in the majority of the monument's stands of low sagebrush indicates that these vegetation types will either not burn or it will burn in a patchy mosaic. Badlands and unburned areas dominated by low sagebrush will provide adequate habitat for Payson beardtongue.

Wasatch biscuitroot also occurs primarily in the low sage community. Unburned stands of this vegetation type will afford Wasatch biscuitroot adequate habitat protection.

The distributions of Sodaville milkvetch, Western dodder, and ternate desert-parsley on the monument are unknown, but all three species are believed to be rather widely distributed and there appears to be considerable habitat for them on the monument. Sodaville milkvetch and ternate desert-parsley appear to be more common than dodder, and they are thought to be adapted to fire. Only four small patches (<10 sq. ft./patch) of Western dodder have been observed on the monument. It is very inconspicuous, and would likely be overlooked even if searches designed to locate it were conducted prior to prescribed burns. Managing prescribed fire to attain a mosaic of burned and unburned vegetation in any given area, limiting the size of the area treated with fire in any given period of time, and suppressing wildland fires is expected to sustain the presence of these species and afford them adequate habitat protection.

### **Soils Descriptions**

The following are the major soil series in Fossil Butte NM.

**Cundick Series:** Soils are generally well-drained with slow permeability. The surface layer is a reddish brown clay ranging from 6 to 20 inches deep over Wasatch shale. Elevation is 7,000 to 8,000 feet. Typical native vegetation on these soils includes low sagebrush, rabbitbrush, and native grasses.

**Fossilon Series:** Soils are generally well-drained with moderately slow permeability. The surface layer is a pale brown clay loam ranging from 6 to 20 inches deep over a marlstone member of the Green River formation. Elevation is 7,200 to 8,000 feet. Typical native vegetation on these soils includes low sagebrush and native grasses.

**Gunson Series:** Soils are generally well-drained with slow permeability. The surface layer is a light reddish brown clay ranging from 9 to 60 inches deep. Elevation is 6,600 to 7,500 feet. Typical native vegetation on these soils includes big sagebrush, winterfat, and native grasses.

**Moyerson Series:** Soils are generally well-drained with slow permeability. The surface layer is a pale brown clay ranging from 6 to 20 inches deep over Wasatch shale. Elevation is 6,600 to 7,400 feet. Typical native vegetation on these soils includes winterfat and native grasses.

**Prow Series:** Soils are generally well-drained with moderate permeability. The surface layer is a light brownish gray clay loam ranging from 6 to 20 inches deep over soft marlstone of the Green River formation. Elevation is 7,200 to 8,000 feet. Typical native vegetation on these soils includes big sagebrush, serviceberry, bitterbrush, rabbitbrush, and native grasses.

## APPENDIX A – FMU Biotic Characteristics Detailed Description

Redmanson Series: Soils are generally well-drained with moderate permeability. The surface layer is a grayish brown loam ranging from 19 to 60 inches deep. Parent materials from the Wasatch and Green River formations are intermingles. Elevation is 7,000 to 8,000 feet. Typical native vegetation on these soils includes big sagebrush, snowberry, serviceberry, aspen, bitterbrush, and native grasses.

Swift Creek Series: Soils are generally well-drained with moderate permeability. The surface layer is a pale brown loam ranging from 40 to 60 inches deep over marlstone and limestone members of the Green River formation. Elevation is 7,000 to 8,000 feet. Typical native vegetation on these soils includes big sagebrush, serviceberry, rabbitbrush, snowberry, and native grasses.

Tisworth, Fine Variant, Series: Soils are generally well-drained with slow permeability. The surface layer is a light brown clay or clay loam ranging from 20 to 60 inches or more deep. Elevation is 6,600 to 7,500 feet. Typical native vegetation on these soils includes greasewood, rabbitbrush, snakeweed, and native grasses.

### Migratory Birds of Management Concern in Fossil Butte NM.

The list identifies two levels of concern. Species listed in the Level I category need conservation action. Monitoring is indicated for species listed in the Level II category. Species known or suspected to occur in Fossil Butte National Monument, their habitats, and category of concern are identified in the table below.

Level	Species	Habitats
I	Sage grouse	Shrub-steppe (sagebrush)
I	Ferruginous hawk	Shrub-steppe (sagebrush)
I	Brewer's sparrow	Shrub-steppe (sagebrush), mountain shrub
I	Franklin's gull	Wetlands
I	Sage sparrow	Shrub-steppe (sagebrush), mountain shrub
I	Swainson's hawk	Riparian
I	Northern goshawk	Conifer, aspen
I	Peregrine falcon	Cliffs
I	Burrowing owl	Shortgrass prairie
I	Forster's tern	Wetlands
I	Whooping crane	Wetlands
II	Calliope hummingbird	Conifer, riparian
II	Lewis' woodpecker	Conifer, riparian
II	Lark bunting	Prairie, Shrub-steppe (sagebrush)
II	Williamson's sapsucker	Conifer
II	Black-chinned hummingbird	Riparian, Shrub-steppe (sagebrush)
II	Red-naped sapsucker	Aspen
II	Three-toed woodpecker	Conifer
II	Hammond's flycatcher	Conifer, aspen, riparian
II	Marsh wren	Wetlands
II	Plumbeous vireo	Conifer
II	Dusky flycatcher	Conifer, aspen, shrub
II	Sage thrasher	Shrub-steppe (sagebrush)
II	Grasshopper sparrow	Shrub-steppe (sagebrush), prairie
II	Bobolink	Shrub-steppe (sagebrush), prairie
II	Western screech owl	Riparian
II	Broad-tailed hummingbird	Riparian, conifer
II	Western scrub jay	Juniper woodland
II	Loggerhead shrike	Shrub-steppe (sagebrush)
II	Vesper sparrow	Shrub-steppe (sagebrush)

## APPENDIX A – FMU Biotic Characteristics Detailed Description

II	Lark sparrow	Shrub-steppe (sagebrush)
II	Golden-crowned kinglet	Conifer
II	Ash-throated flycatcher	Juniper woodland
II	Common tern	Wetlands

## INTERAGENCY FIRE REPORT

Fire Name: \_\_\_\_\_

Incident Commander: \_\_\_\_\_

Cause: Human / Lightning

Geographic Location: \_\_\_\_\_

Legal: T \_\_\_\_\_ N, R \_\_\_\_\_ W, 1/4 \_\_\_\_\_, 1/4 \_\_\_\_\_, SEC \_\_\_\_\_ Elevation: \_\_\_\_\_

**1. CHARACTER OF FIRE:**

Smoldering	Crowning
Creeping	Spotting
Running	Torching

**2. SPREAD POTENTIAL:**

Low	Moderate
High	Extreme

**3. ESTIMATED SIZE:**

Spot	1 - 5 Acre
1/4 - 1/2 Acre	5 - 10 Acre
1/2 - 3/4 Acre	10 - 15 Acre
1 Acre	15+ Acre

**4. ESTIMATED WINDS:**

None	10 - 15
0 - 5	15 - 20
5 - 10	20+

**5. WIND DIRECTION:**

Down Canyon	North	
Up Canyon	South	
Down Slope	East	
Up Slope	West	
Variable	NE	SE
None	NW	SW

**6. WEATHER CONDITIONS:**

**8. ADJACENT FUEL TYPE:**

Grass	Logging Slash
Brush	Thinning Slash
Re-prod	Light Timber
Heavy Timber	Other:

**9. 13 SLOPE**

**EXPOSURE:**

North	NE	Flat Ridge Top
South	NW	
East	SE	
West	SW	

**10. SLOPE PERCENT:**

Flat	0 - 20	20 - 40
40 - 69	60+	

**11. POSITION ON SLOPE:**

Top	Upper 1/3	Middle 1/3
Lower 1/3	Bottom	

**12. SPECIAL INFORMATION:**

Structures Threatened?  
Access: (Nearest trail, road, helispot)  
Other: \_\_\_\_\_

**13. ESTIMATE RESOURCE NEEDS:**

At Scene: \_\_\_\_\_  
En route: \_\_\_\_\_  
Additional: \_\_\_\_\_

## Appendix B – Fire Size Up

Clear	Scattered Clouds	
Building Cumulus	T-Storms in Area	14
Lightning Intermittent Showers	Overcast Heavy Showers	.
		<b><u>SPECIAL EQUIPMENT NEEDS:</u></b>
		Retardant
		Portable Pumps
		Heli-bucket work (is water available?)
		Engine (road accessible?)
		Chainsaw
		Jumpers
		Other: _____
		NONE
7. <b><u>FUEL TYPE:</u></b>		
Grass	Logging Slash	
Brush	Thinning Slash	
Re-prod	Snag	
Heavy Timber	Log and Duff	
Light Timber	Other:	

**REMEMBER: Risk Assessment, LCES, 10 Fire Orders, 18 Watch-Out Situations!**

## **Appendix C - Minimum Impact Suppression Tactics (Guidelines & Rehabilitation Standards)**

The following guidelines are prepared in response to the June 26, 2003 NWCG memo Re: Minimum Impact Suppression Tactics, signed by J.L. Stires, NWCG Chair and adapted from the memo attachment "NWCG Guidance on MIST in response to the 10-Year Implementation Plan for Reducing Wildland Fire Risks to Communities and the Environment" for use at Fossil Butte National Monument.

### **INCIDENT MANAGEMENT CONSIDERATIONS**

Fire managers and firefighters select tactics that have minimal impact to values at risk. These values are identified in approved Land or Resource Management Plans. Standards and guidelines are then tied to implementation practices which result from approved Fire Management Plans.

- Firefighter and public safety cannot be compromised.
- Evaluate suppression tactics during planning and strategy sessions to ensure they meet agency administrator objectives and MIST. Include agency Resource Advisor and/or designated representative.
- Communicate MIST where applicable during briefings and implement during all phases of operations.

## **13.1.1.1 RESPONSIBILITIES**

### ***Agency Administrator or Designee***

- Ensure agency personnel are provided with appropriate MIST training and informational/educational materials at all levels.
- Communicate land and fire management objectives to Incident Commander.
- Periodically monitor incident to ensure resource objectives are met.
- Participate in incident debriefing and assist in evaluation of performance related to MIST.

### ***Incident Commander***

- Communicate land and fire management objectives to general staff.
- Evaluate suppression tactics during planning and strategy sessions to see that they meet the Agency Administrator's objectives and MIST guidelines.
- Monitor operations to ensure MIST is implemented during line construction as well as other resource disturbing activities.
- Include agency Resource Advisor and/or local representative during planning, strategy, and debriefing sessions.

### ***Resource Advisor***

- Ensure interpretation and implementation of WFSA/WFIP and other oral or written line officer direction is adequately carried out.
- Participate in planning/strategy sessions and attend daily briefings to communicate resource concerns and management expectations.
- Review Incident Action Plans (IAP) and provide specific direction and guidelines as needed.
- Monitor on the ground applications of MIST.
- Provide assistance in updating WFSA/WFIP when necessary.
- Participate in debriefing and assist in evaluation of performance related to MIST.
- Monitor fire management activities and halt work if previously unknown resources are located; protect and record newly discovered resources.
- Brief suppression, prescribed fire, and hazard fuels personnel about protecting cultural resources.

### ***Planning Section***

- Use Resource Advisor to help assess that management tactics are commensurate with land/resource and incident objectives.
- Ensure that instructions and specifications for MIST are communicated clearly in the IAP.
- Anticipate fire behavior and ensure all instructions can be implemented safely.

### ***Logistics Section***

- Ensure actions performed around Incident Command Post (ICP), staging areas, camps, helibases, and helispots result in minimum impact on the environment.

### ***Operations Section***

## **Appendix C - Minimum Impact Suppression Tactics (Guidelines & Rehabilitation Standards)**

- Evaluate MIST objectives to incorporate into daily operations and IAP.
- Monitor effectiveness of suppression tactics in minimizing impacts to resources and recommend necessary changes during planning/strategy sessions.
- Communicate MIST to Division Supervisors and Air Ops/Support during each operational period briefing. Explain expectations for instructions listed in Incident Action Plan.
- Participate in incident debriefing and assist in evaluation of performance related to MIST.

### ***Division/Group Supervisor and Strike Team/Task Force Leader***

- Communicate MIST objectives and tactics to single resource bosses.
- Recommend specific tasks on divisions to implement MIST.
- Monitor effectiveness of suppression tactics in minimizing impacts to resources and recommend necessary changes to Operations Section Chief.

### ***Single Resource Bosses***

- Communicate MIST objectives to crew members.
- Monitor work to ensure that crews are adhering to MIST guidelines and specific incident objectives.
- Provide feedback to supervisor on implementation of MIST.

## **IMPLEMENTATION**

Keep this question in mind: What creates the greater impact, the fire suppression effort or the fire?

### **Safety**

- Apply principles of LCES to all planned actions.
- Constantly review and apply the 18 Watch Out Situations and 10 Standard Fire Orders.
- Be particularly cautious with:
  - Burning snags allowed to burn.
  - Burning or partially burned live and dead trees.
  - Unburned fuel between you and the fire.

### ***Escape Routes and Safety Zones***

- In any situation, the best escape routes and safety zones are those that already exist. Identifying natural openings, existing roads and trails and taking advantage of safe black will always be a preferred tactic compatible with MIST. If safety zones must be created, follow guidelines similar to those for helispot construction (see below).
- Constructed escape routes and safety zones in heavier fuels will have a greater impact, be more time consuming, labor intensive and ultimately less safe.

### **General Considerations**

- Consider the potential for introduction of noxious weeds and mitigate by removing weed seed from vehicles, personal gear, cargo nets, etc.
- Consider impacts to riparian areas when siting water handling operations.
  - Use longer draft hoses to place pumps out of sensitive riparian areas.
  - Plan travel routes for filling bladder bags to avoid sensitive riparian areas.
- Ensure adequate spill containment at fuel transfer sites and pump locations. Stage spill containment kits at the incident.
- In fire suppression operations, protection of historic structures, archeological resources and paleontological features will be more important than minimizing acres burned.
- A suite of mitigation actions will be used either individually or in combination, to reduce the potential effect of wildland fires and suppression actions on the historic Haddenham Cabin. These include blacklining around the structures, treating with fire retardant foam concurrent with fires, wrapping with heat reflective materials, and establishing sprinkler systems on and around the Cabin concurrent with wildland fire suppression activities.

### **Fire Lining Phase**

- Select tactics, tools, and equipment that least impact the environment.
- Give serious consideration to use of water or foam as a firelining tactic.
- Use alternative mechanized equipment such as excavators and rubber tired skidders rather than bulldozers when constructing mechanical line.
- Allow fire to burn to natural barriers and existing roads and trails.

## Appendix C - Minimum Impact Suppression Tactics (Guidelines & Rehabilitation Standards)

- Monitor and patrol firelines to ensure continued effectiveness.

### Ground Fuels

- Use cold-trail, wet line or combination when appropriate. If constructed fireline is necessary, use minimum width and depth to stop fire spread.
- Consider the use of fireline explosives (FLE) for line construction and snag falling to create more natural appearing firelines and stumps.
- Burn out and use low impact tools like swatters and gunny sacks.
- Minimize bucking to establish fireline, preferably move or roll downed material out of the intended constructed fireline area. If moving or rolling out is not possible, or the downed log/bole is already on fire, build line around it and let the material be consumed.
- To prevent the potential crushing of fossil remains, vehicle traffic will be prohibited in known fossil-bearing areas associated with a wildland fire, prescribed fire, and mechanical removal of hazard fuels. In order to preserve these resources, consultation with the assigned Resource Advisor regarding placement of firelines and their construction specifications will take place during fire suppression operations

### Aerial fuels—brush, trees, and snags:

- Adjacent to fireline: limb only enough to prevent additional fire spread.
- Inside fireline: remove or limb only those fuels which would have potential to spread fire outside the fireline.
- Cut brush or small trees necessary for fireline construction flush to the ground.
- Trees, burned trees, and snags:
  - Minimize cutting of trees, burned trees, and snags.
  - Do not cut live trees unless it is determined they will cause fire spread across the fireline or seriously endanger workers. Cut stumps flush with the ground.
  - Scrape around tree bases near fireline if hot and likely to cause fire spread.
  - Identify hazard trees with flagging, glowsticks, or a lookout.
- When using indirect attack:
  - Do not fall snags on the intended unburned side of the constructed fireline unless they are an obvious safety hazard to crews.
  - Fall only those snags on the intended burn-out side of the line that would reach the fireline should they burn and fall over.

### Mopup Phase

- Consider using “hot-spot” detection devices along perimeter (aerial or hand-held).
- Use extensive cold-trailing to detect hot areas.
- Cold-trail charred logs near fireline: do minimal scraping or tool scarring. Restrict spading to hot areas near fireline.
- Minimize bucking of logs to check for hot spots or extinguish fire: preferably roll the logs and extinguish the fire.
- When ground is cool return logs to original position after checking.
- Refrain from piling: burned/partially burned fuels that were moved should be arranged in natural positions as much as possible.
- Consider allowing larger logs near the fireline to burn out instead of bucking into manageable lengths. Use a lever, etc. to move large logs.
- Use gravity socks in stream sources and/or combination of water blivets and fold-a-tanks to minimize impacts to streams.
- Personnel should avoid using rehabilitated firelines as travel corridors whenever possible because of potential soil compaction and possible detrimental impacts to rehab work.
- Avoid use of non-native materials for sediment traps in streams.
- Aerial fuels (brush, small trees, and limbs): remove or limb only those fuels which if ignited have potential to spread fire outside the fireline.
- Burning trees and snags:
  - *Be particularly cautious when working near snags* (ensure adequate safety measures are communicated).
  - The first consideration is to allow a burning tree/snag to burn itself out or down.

## **Appendix C - Minimum Impact Suppression Tactics (Guidelines & Rehabilitation Standards)**

- Identify hazard trees with flagging , glow-sticks or a lookout.
- If there is a serious threat of spreading firebrands, extinguish with water or dirt.
- Consider felling by blasting, if available.

### **Aviation Management**

Minimize the impacts of air operations by incorporating MIST in conjunction with the standard aviation risk assessment process.

- Possible aviation related impacts include:
  - Damage to soils and vegetation resulting from heavy vehicle traffic, noxious weed transport, and/or extensive modification of landing sites.
  - Impacts to soil, fish and wildlife habitat, and water quality from hazardous material spills.
  - Chemical contamination from use of retardant and foam agents.
  - Biological contamination to water sources, e.g., whirling disease.
  - Safety and noise issues associated with operations in proximity to populated areas, livestock interests, urban interface, and incident camps and staging areas.
- Helispot Planning
  - When planning for helispots determine the primary function of each helispot, e.g., crew transport or logistical support.
  - Consider using long-line remote hook in lieu of constructing a helispot.
  - Consult Resource Advisors in the selection and construction of helispots during incident planning.
  - Estimate the amount and type of use a helispot will receive and adapt features as needed.
- Balance aircraft size and efficiency against the impacts of helispot construction.
- Use natural openings as much as possible. If tree felling is necessary, avoid high visitor use locations unless the modifications can be rehabilitated. Fall, buck, and limb only what is necessary to achieve a safe and practical operating space.

### **14 Retardant, Foam, and Water Bucket Use**

- Assess risks to sensitive watersheds from chemical retardants and foam. Communicate specific drop zones to air attack and pilots, including areas to be avoided.
- Fire managers should weigh use of retardant with the probability of success by unsupported ground force. Retardant may be considered for sensitive areas when benefits will exceed the overall impact. This decision must take into account values at risk and consequences of expanded fire response and impact on the land.
- Consider biological and/or chemical contamination impacts when transporting water.
- Limited water sources expended during aerial suppression efforts should be replaced. Consult Resource Advisors prior to extended water use beyond initial attack.

### **Logistics, Camp Sites, and Personal Conduct**

- Consider impacts on present and future visitors.
- Provide portable toilets at areas where crews are staged.
- Good campsites are found, not made. If existing campsites are not available, select campsites not likely to be observed by visitors
- Select impact-resistant sites such as rocky or sandy soil, or openings within heavy timber. Avoid camping in meadows and along streams or shores.
- When there is a small group try to disperse use. In the case of larger camps: concentrate, mitigate, and rehabilitate.
- Lay out camp components carefully from the start. Define cooking, sleeping, latrine, and water supplies.
- Prepare bedding and campfire sites with minimal disturbance to vegetation and ground.
- Personal Sanitation:
  - Designate a common area for personnel to wash up. Provide fresh water and biodegradable soap.
  - Do not introduce soap, shampoo or other chemicals into waterways.

## **Appendix C - Minimum Impact Suppression Tactics (Guidelines & Rehabilitation Standards)**

- Dispose of wastewater at least 200 feet from water sources.
- Toilet sites should be located a minimum of 200 feet from water sources. Holes should be dug 6-8 inches deep.
- If more than 1 crew is camped at a site strongly consider portable toilets and remove waste.
- Store food so that it is not accessible to wildlife, away from camp and in animal resistant containers.
- Do not let garbage and food scraps accumulate in camp.
- Monitor travel routes for damage and mitigate by:
  - Dispersing on alternate routes or
  - Concentrating travel on one route and rehabilitate at end of use.
- If a campfire is built, leave no trace of it and avoid using rock rings. Use dead and down wood for the fire and scatter any unused firewood. Do not burn plastics or metal.

### **Fireline Rehabilitation Standards**

The following standards will be used to rehabilitate line construction and other containment activities undertaken within Fossil Butte NM

#### **FIRELINE**

- Pull soil, duff, litter and rocks over the line
  - Rake the line to scarify the soil surface; pull soil, duff, litter, and rocks back into mineral soils to bring it back up to natural grade
  - Rehabbed line should blend in with surrounding soil contours
- Scatter brush over the line
  - Cover at least 90% of the fireline
  - Scattered duff, needle litter, and brush should appear random to eliminate the appearance of a straight line disturbance. In general the amount and type of duff, litter, and brush should match the surrounding area.
- Construct water bars or berms to reduce channeling and deflect erosion on slopes
  - Temporary berms are preferable to water bars. When constructing water bars utilize local woody material
  - On slopes 30% or more, place berms every 20', on slopes 15-30%, place berms every 50'
  - Construct at 45 degree angles to the contour

#### **IMPROVEMENTS**

- Restore campsite to natural conditions.
- Scatter fireplace rocks and charcoal from fire, cover fire ring with soil, and blend area with natural cover.
- Pack out all garbage
- Remove all signs of human activity.
- Restore helicopter landing sites.
- Fill in and cover latrine sites.

#### **AESTHETIC CONSIDERATIONS**

- When replacing larger rocks in the fireline, place weathered or lichen side up
- Obliterate cup trenches and ditches
- Flush cut stumps
- Obscure cut ends by facing away from trails or roads or camouflaging with dirt or brush.
- Arrange bucked up log pieces to simulate original log near fire perimeters and along trails
- Remove all flagging, signs, and garbage associated with fire activities.

Walk through adjacent undisturbed areas and take a look at your rehab efforts to determine your success at returning the area to as natural a state as possible.

**WYOMING INTERAGENCY  
FIRE RESTRICTION PLAN**

***Bureau of Land Management  
National Park Service  
Bureau of Indian Affairs  
Forest Service***

***and  
Wyoming State Forestry Division***

**WYOMING INTERAGENCY FIRE RESTRICTION PLAN**

This plan is written within the direction and guidelines provided by the ROCKY MOUNTAIN INTERAGENCY WILDFIRE PREVENTION and CLOSURE GUIDELINES that were adopted by the ROCKY MOUNTAIN Coordination Group in May 1996. This plan will apply to all wildland administrative agencies within the state of Wyoming.

**(WYOMING INTERAGENCY COOPERATIVE FIRE PROTECTION AGREEMENT dated April 9, 1996. BLM K910-A96-014, FS 1102-0005-96-013)**

**OBJECTIVES:**

1. Develop a plan that standardizes and simplifies the process for initiating and rescinding fire restrictions for all agencies in Wyoming which have jurisdiction for public, state and/or private lands.
2. Establish fire restriction areas which have common fuels, fire behavior characteristics, easily identifiable and describable boundaries, and which enter the upper levels of fire danger periods at approximately the same time.
3. Develop a media plan that reduces confusion, provides a coordinated interagency approach, and better informs the public of restriction status.
4. Develop standard definitions for Partial and Restrictions that are interagency acceptable, understandable by the public and legally enforceable.
5. Develop standard, measurable, and predictive fire danger criteria that provide managers direction concerning when and where to initiate or remove restrictions.
6. Establish responsibility and time frames for dealing with the different phases of this plan.

**GUIDELINES APPLICABLE TO ALL FIRE RESTRICTION AREAS:**

## **APPENDIX D – Wyoming Interagency Fire Restriction Plan**

Restrictions should be implemented only after all other reasonable prevention measures have been taken. These measures may include increased signing, public contacts, media campaigns, etc. Fire restrictions should be considered only when very high or extreme fire danger is predicted to persist. Other considerations are the level of human-caused fire occurrences being experienced, potential high risk occasions (4th of July, etc.), and large fire activity occurring on your unit. Emergency closures have an extreme impact on the public and fire agencies and are discouraged except under the most severe conditions. They can not be justified by fire danger alone and should be driven by high potential for human-caused fires, severe shortages of resources, numerous large fires, etc.

### **PROCEDURES FOR INITIATING OR RESCINDING FIRE RESTRICTIONS**

#### **INITIATION:**

1. When the factors identified in the FIRE RESTRICTION EVALUATION GUIDELINES (page 4) approach critical levels for an area, begin considering the initiation of a fire restriction. Agency dispatchers and head fire management personnel will be responsible for monitoring these conditions.
2. When conditions are identified as critical, the head fire management personnel within the fire restriction area will confer, review conditions, recommend that a fire restriction is necessary for their area of responsibility and include a start date.
3. When the respective agency applies a restriction, he/she will coordinate with the other agencies and the Public Information Officer responsible for the media notification in that fire restriction area in developing a schedule and plan for public notification.
4. The respective Dispatch Center will be notified of the impending restriction. They will disseminate current information as appropriate.
5. Each respective agency will be responsible for assuring their appropriate Orders and Restrictions, that authorize the special fire restrictions, are properly completed and signed by the Officer with authority.
6. Law enforcement personnel for each agency should have an opportunity to review the Orders to assure they are correctly completed within their guidelines and enforceable prior to public release. Law enforcement and fire personnel should jointly develop a plan to enforce the restrictions.
7. The Information Officer with responsibility for that fire restriction area will organize and initiate the media notification plan.
8. Each agency will post signs and notifications according to their guidelines to inform the public of the restrictions. Additional patrols may be initiated in high risk-high value areas.
9. Each agency will inform it's personnel of the restrictions being enacted and discuss changes in their daily routine to compensate for the increased fire danger. Those responsible for public contact will be provided with a copy of the restrictions and appropriate map.

Information Officers for each agency will be responsible for notifying the public, through media in their area, that they can now find the status of fire restrictions for any area in Wyoming by contacting their local, state, or federal office. The intent is to better inform the

## **APPENDIX D – Wyoming Interagency Fire Restriction Plan**

public of fire restrictions throughout Wyoming when they may be planning activities to areas away from their home.

### RESCINDING A RESTRICTION:

Removal of the restrictions will follow the same procedures outlined above.

### **FIRE RESTRICTION EVALUATION GUIDELINES**

When weather factors or fire suppression impacts become a concern, the following criteria will be used to determine if a Fire Restriction should be considered by area. Use weather data from weather stations in each Fire Restriction Area to make determination.

- \* 1,000 HOUR FUEL MOISTURE CONTENT IS 12% OR LESS
- \* 3 DAY MEAN ENERGY RELEASE COMPONENT (ERC) IS AT 90% OR ABOVE, IN THE UNITS REP FUEL MODEL.
- \* LIVE FUEL MOISTURE CONTENT IS 75% OR LESS
- \* FIRES ARE IMPACTING AVAILABLE SUPPRESSION RESOURCES
- \* AREA IS RECEIVING A HIGH OCCURRENCE OF HUMAN-CAUSED FIRES.
- \* ADVERSE FIRE WEATHER IS PREDICTED TO CONTINUE

### PARTIAL RESTRICTIONS:

IF AT LEAST 3 OF THE CONDITIONS ABOVE ARE MET, CONSIDER INITIATING A PARTIAL RESTRICTION.

### FULL RESTRICTIONS:

CONSIDER INITIATING A FULL RESTRICTION AFTER A PARTIAL RESTRICTION HAS BEEN IN EFFECT AND 4 OR MORE OF THE CONDITIONS ABOVE ARE IMPACTED.

### PARTIAL AND FULL RESTRICTIONS

By Rocky Mountain Coordination Group direction, there will be only two fire restriction Stages: Partial and Full. Each Agency in the Fire Restriction Area must write their own Special Order which authorizes the restrictions within their jurisdiction. Each is responsible for using their agencies format and having their Law Enforcement personnel review the Order to assure it is legally correct and enforceable. To reduce confusion and standardize the restrictions, the following criteria will be used in all Orders:

### PARTIAL RESTRICTIONS:

The following acts are prohibited on Federal, State and private lands including roads, and trails described herein, until further notice:

## **APPENDIX D – Wyoming Interagency Fire Restriction Plan**

1. Trash or refuse fires between the hours of 6:00 pm and 8:00 am, inside containers provided with spark arresters and located within a cleared area ten feet in radius, are permitted.
2. Campfires contained within an established fire ring at an established campground are permitted.
3. Charcoal fires within enclosed grills are permitted.
4. Use of acetylene cutting torches or electric arc welders in cleared areas ten feet in radius are permitted.
5. Propane or open fire branding activities in cleared areas ten feet in radius are permitted.

### **EXEMPTIONS:**

- a. Persons with a written permit that specifically authorizes the otherwise prohibited act.
- b. Persons using a fire solely fueled by liquid petroleum or LPG fuels.
- c. Persons conducting activities in those designated areas where the activity is specifically authorized by written posted notice.
- d. Any Federal, State, or local officer or member of an organized rescue or firefighting force in the performance of an official duty.

### **FULL RESTRICTION:**

The following acts are prohibited on Federal, State and private lands including roads, and trails described herein, until further notice:

1. All outdoor fires, including, but not limited to, trash fires, charcoal fires, acetylene torches, electric arc welders, grills fueled by any pressurized liquid, and propane burners, are prohibited.
2. Smoking shall be restricted to inside vehicles or buildings.
3. Fires within fireplaces and woodstoves without chimney or flue screens are prohibited.
4. All motorized travel shall be restricted to developed roads.
5. Use of motorized equipment or tools shall be restricted to cleared areas ten feet in radius.
6. Discharge of fireworks is prohibited.

### **EXEMPTIONS:**

- a. Persons with a written permit that specifically authorizes the otherwise prohibited act.
- b. Persons using a fire fueled solely by liquid petroleum or LPG fuels.
- c. Persons conducting activities in those designated areas where the activity is specifically authorized by written posted notice.

## APPENDIX D – Wyoming Interagency Fire Restriction Plan

d. Any Federal, State, or local officer, or member of an organized rescue or firefighting force in the performance of an official duty.

### DEFINITIONS

The following definitions should be used as part of, or referenced to, in the Special Orders or Laws that initiate and authorize a Partial or Full Restriction:

**CAMPFIRE**: A fire, not within any building, mobile home, or living accommodation mounted on a vehicle, which is used for cooking, branding, personal warmth, lighting, ceremonial, or aesthetic purposes. Campfires are open fires, usually built on the ground, from native fuels or charcoal, including charcoal grills. Campfire includes "fire".

**RESTRICTION**: A limitation on a activity or use.

**CLOSURE**: The closing of an area to entry or use.

**STOVE FIRE**: A campfire built inside an enclosed stove, grill or portable brazier, including a space heating device.

**DEVELOPED RECREATION SITE**: An area which has been improved or developed for recreation. A developed recreation site is signed as an agency-owned campground or picnic area and identified on a map as a site developed for that purpose.

**DESIGNATED AREA**: A geographic area defined by an agency in which specific land use activity is occurring.

**PERMIT**: A written document issued by an authorized agency representative to specifically authorize an otherwise prohibited act.

**CHAINSAW**: A saw powered by an internal combustion engine, with cutting teeth linked in an endless chain.

**MOTORIZED EQUIPMENT**: any equipment or vehicle propelled by an internal combustion engine.

**UNIMPROVED AREA DEFINITION**: cropland, agricultural land, and undeveloped land which predominately remains in its natural forested or range condition.

## APPENDIX D – Wyoming Interagency Fire Restriction Plan

Special Order

### Stage I Fire Restriction

#### Bridger-Teton National Forest

Pursuant to Title 36 CFR 261.50 (a) and (b) the following acts are prohibited on the public, roads and trails described herein, until further notice:

1. Building, maintaining, attending or using a fire or campfire, except a fire within a developed recreation site. (Title 36 CFR 261.52(a)). See EXHIBIT A Attached.
2. Smoking, except within an enclosed vehicle or building, a developed recreation site or while stopped in an area at least three feet in diameter that is barren or cleared of all flammable materials. (Title 36 CFR 261.52(d)). See EXHIBIT A Attached.

Pursuant to Title 36 CFR 261.50 (e), the following persons are exempt from this order:

1. Persons using a fire solely fueled by liquid petroleum or LPG fuels.
2. Persons conducting activities in those designated areas where the activity is specifically authorized by written posted notice.
3. Any Federal, State, or local officer or member of an organized rescue or firefighting force in the performance of an official duty.

Area described:

All National Forest System Lands within the boundaries of the Bridger-Teton National Forest.

Date this \_\_\_\_\_ day of \_\_\_\_\_, 2000.

\_\_\_\_\_  
Forest Supervisor

Violation of the above prohibited acts is punishable by a fine of not more than \$500, and/or imprisonment for not more than six months. (Title 16 USC 551)

## APPENDIX D – Wyoming Interagency Fire Restriction Plan

### SPECIAL ORDER

#### STAGE II FIRE RESTRICTIONS

##### Bridger-Teton National Forest

Pursuant to Title 36 CFR 261.50 (a) and/or (b), the following acts are prohibited on the public land, roads, and trails described herein, until further notice:

1. Building, maintaining, attending, or using a fire or campfire except within a developed recreation site. (Title 36 CFR 261.52 (a)) See EXHIBIT A attached.
2. Smoking, except within an enclosed vehicle or building, a developed recreation site or while stopped in an area at least three feet in diameter that is barren or cleared of all flammable materials.

The following acts are prohibited from 1:00 p.m. to 1:00 a.m.:

3. Operating a chain saw or motorized equipment for any purpose (Title 36 CFR 261.52 (h)). See EXHIBIT A attached.
4. Operating motorized vehicles off designated roads and trails (Title 36 CFR 261.52 (h)).
5. Blasting, welding, or other activities that generate flame or flammable material (Title 36 CFR 261.52 (b) and CFR 261.52 (i)).

Pursuant to Title 36 CFR 261.50 (e) the following persons are exempt from parts 1, 3, 4 and 5 of the order:

1. Persons with a written permit that specifically authorizes the otherwise prohibited act.
2. Persons using a fire fueled solely by liquid petroleum or LPG fuels.
3. Persons conducting activities in those designated areas where the activity is specifically authorized by written posted notice.
4. Any Federal, State, or local officer or member of an organized rescue or firefighting force in the performance of an official duty.

Area described:

All National Forest System lands within the boundaries of the Bridger-Teton National Forest, within the State of Wyoming.

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 2000.

\_\_\_\_\_  
Forest Supervisor

Violation of the above prohibited acts is punishable by a fine of not more than \$5000.00 and/or imprisonment for not more than six months (Title 16 USC 551, Title 18 USC 1(3), Title 18 USC 357 (b) (6), and/or appropriate State laws).

## APPENDIX D – Wyoming Interagency Fire Restriction Plan

### EXHIBIT C

#### Definitions

The following definitions should be used as part of, or reference to, in the Special Orders or Laws that initiate and authorize a Stage I or Stage II Restriction:

<u>Campfire:</u> personal	A fire, not within any building, mobile home or living accommodation on a vehicle, which is used for cooking, warmth, branding, lighting, ceremonial, or aesthetic purposes. Campfires are open fires, usually built on the ground, from native forest fuels or charcoal. Campfire includes "fire".
<u>Restriction:</u>	A limitation on an activity or use.
<u>Closure:</u>	The closing of an area to entry or use.
<u>Stove Fire:</u>	A campfire built inside an enclosed stove, grill or portable brazier, including a space heating device.
<u>Developed Recreation:</u> recreation. A	An area which has been improved or developed for developed recreation site is signed as an agency-owned campground or picnic area and identified on a map as a site developed for that purpose.
<u>Chainsaws:</u>	A saw powered by an internal combustion engine, with cutting teeth in an endless chain.
<u>Designated:</u> land	A geographic area defined by an agency in which specific use activity is occurring.
<u>Permit:</u>	A written document issued by an authorized agency representative to specifically authorize an otherwise prohibited act.
<u>Motorized Equipment:</u>	Any equipment or vehicle propelled by internal combustion engine.
<u>Designated Roads/Trails:</u>	Those roads and trails which are identified on maps regularly provided to the public by land management agencies.

Station Information for Muddy Creek, WY-RSD (1983-2003) Muddy Creek Remote Automated Weather Station NWS #481801 Climate Class 2, Herbaceous Class P, Slope Class 1, Fuel Model T
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## APPENDIX D – Wyoming Interagency Fire Restriction Plan

Energy Release Component (ERC)	Staffing Class (Adjective Rating)		Actions
0-1	I	Low	Normal tours of duty for Monument staff. Minimum of two (2) initial attack personnel available for call-out. All facilities open. No restrictions.
2-8	II	Low	
9-15	III-L	Moderate	All SC I-II action in addition to: Tours of duty extended as necessary when thunderstorms or lightning are observed in the area. Weekly checks of engine are occurring.
When in SC III-L, and local fuel conditions warrant, a predicted lightning activity level (LAL) of 4-6 or a “Red Flag Warning” issued for Zone 277 FOBUE may increase Staffing Class to III-H for the predicted period.			
16-20	III-H	High	All initial attack personnel staff on-duty 6-7 days per week, (lieu days may be cancelled), OT authorized to extend tours of duty (to at least 1900 hrs). Initial attack modules will consist of at least one qualified Incident Commander (ICT5) on duty through the burning period, or identified through a local cooperator (USFS, BLM). Engine checks are completed daily at the start of shift. A fire detection flight (fixed or rotor wing) may be requested from an adjacent cooperator. Equipment use may be restricted.
21-22	IV	Very High	All SC III-High actions in addition to the following. Initial attack qualified firefighters are prepared with IA gear in vehicle. Initial attack modules will consist of at least one qualified Initial Attack Incident Commander (ICT4) on duty through the burning period, or identified through a local cooperator (USFS, BLM). Increased fire prevention and enforcement patrols may occur in high hazard areas: public education and fire danger warning notices will occur at Visitor Center and visitor use areas. Press release to local media regarding current situation and restrictions. No open fires. Equipment use may be restricted.
When in SC IV, and local fuel conditions warrant, a predicted lightning activity level (LAL) of 4-6 or a “Red Flag Warning” issued for Zone 277 FOBUE may increase Staffing Class to V for the predicted period.			
23+	V	Extreme	All SC IV actions in addition to the following. Fire qualified staff lieu days cancelled. Coordination with Rawlins Dispatch to confirm availability of Extended Attack Incident Commander (ICT3) within 2 hours response time. Additional resources may be pre-positioned in the dispatch area to meet staffing needs. Engine patrol in park during peak burn period. All fires restricted. Trails into high fire risk areas may be closed. Smoking is prohibited in all backcountry areas and is permitted only in vehicles with ashtrays and designated buildings.

## APPENDIX D – Wyoming Interagency Fire Restriction Plan

Additional costs above regular budgeted staffing in Classes III-High through V are pre-authorized through the establishment of emergency preparedness accounts (PWE E11). Guidelines for these activities are included in RM-18, Wildland Fire Management, Chapter 7 – Preparedness.

Lightning Activity Levels and Red Flag Warnings are issued by the NWS Riverton Forecast Office and must cover the Fossil Butte NM predictive service area (NWS Fire Weather Forecast Zone #277).

Actions (activity restrictions and area closures) and incident response coverage will be closely coordinated with local interagency cooperators, (Bridger-Teton NF, West Zone, and Bureau of Land Management, Rock Springs District) and reported to the Rawlins Interagency Dispatch Center. Upon reaching SC IV and V the Fire Coordinator will ensure notifications are made to park staff and external cooperators. Area closures and any restrictions on public use or activities are initiated by the Superintendent and coordinated with interagency cooperators as described in the Wyoming Interagency Fire Restriction Plan.

## Appendix E - Fossil Butte National Monument - Preparedness Plan

Station Information for Muddy Creek, WY-RSD (1983-2003) Muddy Creek Remote Automated Weather Station NWS #481801 Climate Class 2, Herbaceous Class P, Slope Class 1, Fuel Model T			
Energy Release Component (ERC)	Staffing Class (Adjective Rating)		Actions
0-1	I	Low	Normal tours of duty for Monument staff. Minimum of two (2) initial attack personnel available for call-out. All facilities open. No restrictions.
2-8	II	Low	
9-15	III-L	Moderate	All SC I-II action in addition to: Tours of duty extended as necessary when thunderstorms or lightning are observed in the area. Weekly checks of engine are occurring.
When in SC III-L, and local fuel conditions warrant, a predicted lightning activity level (LAL) of 4-6 or a "Red Flag Warning" issued for Zone 277 FOBU may increase Staffing Class to III-H for the predicted period.			
16-20	III-H	High	All initial attack personnel staff on-duty 6-7 days per week, (lieu days may be cancelled), OT authorized to extend tours of duty (to at least 1900 hrs). Initial attack modules will consist of at least one qualified Incident Commander (ICT5) on duty through the burning period, or identified through a local cooperator (USFS, BLM). Engine checks are completed daily at the start of shift. A fire detection flight (fixed or rotor wing) may be requested from an adjacent cooperator. Equipment use may be restricted.
21-22	IV	Very High	All SC III-High actions in addition to the following. Initial attack qualified firefighters are prepared with IA gear in vehicle. Initial attack modules will consist of at least one qualified Initial Attack Incident Commander (ICT4) on duty through the burning period, or identified through a local cooperator (USFS, BLM). Increased fire prevention and enforcement patrols may occur in high hazard areas: public education and fire danger warning notices will occur at Visitor Center and visitor use areas. Press release to local media regarding current situation and restrictions. No open fires. Equipment use may be restricted.
When in SC IV, and local fuel conditions warrant, a predicted lightning activity level (LAL) of 4-6 or a "Red Flag Warning" issued for Zone 277 FOBU may increase Staffing Class to V for the predicted period.			

## Appendix E - Fossil Butte National Monument - Preparedness Plan

23+	V	Extreme	<p>All SC IV actions in addition to the following. Fire qualified staff lieu days cancelled. Coordination with Rawlins Dispatch to confirm availability of Extended Attack Incident Commander (ICT3) within 2 hours response time. Additional resources may be pre-positioned in the dispatch area to meet staffing needs. Engine patrol in park during peak burn period. All fires restricted. Trails into high fire risk areas may be closed. Smoking is prohibited in all backcountry areas and is permitted only in vehicles with ashtrays and designated buildings.</p>
<p>Additional costs above regular budgeted staffing in Classes III-High through V are pre-authorized through the establishment of emergency preparedness accounts (PWE E11). Guidelines for these activities are included in RM-18, <u>Wildland Fire Management, Chapter 7 – Preparedness</u>.</p> <p>Lightning Activity Levels and Red Flag Warnings are issued by the NWS Riverton Forecast Office and must cover the Fossil Butte NM predictive service area (NWS Fire Weather Forecast Zone #277).</p> <p>Actions (activity restrictions and area closures) and incident response coverage will be closely coordinated with local interagency cooperators, (Bridger-Teton NF, West Zone, and Bureau of Land Management, Rock Springs District) and reported to the Rawlins Interagency Dispatch Center. Upon reaching SC IV and V the Fire Coordinator will ensure notifications are made to park staff and external cooperators. Area closures and any restrictions on public use or activities are initiated by the Superintendent and coordinated with interagency cooperators as described in the Wyoming Interagency Fire Restriction Plan.</p>			

## Appendix F: Pre-Attack Plan

Function/Item Not	Available	Needed	Notes
<b>Command</b>			
Pre-attack WFSA		X	As much as possible, WFSA information will be pre-loaded in to the program.
Pre-positioning Needs			Resources will be pre-positioned according to the step-up staffing plan and/or a coordinated severity request with interagency partners.
Draft Delegation of Authority		X	A draft delegation of authority will be completed, updated annually, and included in this appendix.
Management Constraints	X		Management constraints can be found in Chapter 3 of the FMP.
Interagency Agreements	X		Interagency agreements will be updated annually and can be found in Appendix J of this plan.
Evacuation Procedures		X	A formal evacuation plan has not been written. Should the monument have to be evacuated, personnel and park visitors would be conveyed by motor vehicles to destinations outside the monument, probably the town of Kemmerer. Chicken Creek Road is paved from the picnic area to the park entrance. Chicken Creek Road connects to County Road 12-300 which connects to U.S. 30. From the picnic area to the north entrance the road is gravel. Beyond the north entrance a two-track road requiring 4-wheel-drive and/or high clearance provides an evacuation route connecting to the Dempsy Basin Road (good gravel) back to Wyoming Hwy. 233 and the town of Kemmerer. Persons that must be evacuated from locations remote from one of these roads would have to be transported to the road by stretcher or by a rescue helicopter
Structural Protection Needs	X		Contained in the 1995 Emergency Operations Plan located in the Superintendent's office.
Closure Procedures	X		A formal closure plan has not been written. Currently, the Superintendent authorizes emergency park closures on an as needed basis, usually in response to winter storms. Once traffic in the park has been cleared, the main and northern entrances are barricaded (lock gate at main entrance; place chain and lock across northern entrance) if conditions permit safe access to these locations.
<b>Operations</b>			
Water Sources	X		Water sources include: a standard hydrant at the Visitor Center and Maintenance bldg., and 2 small 2"hydrants on the north and south sides of the Visitor Center. There are outside hose stands at the VC and Maint. Bldg. Ponds and streams inside the monument are generally inaccessible by vehicles or dry during the fire season (check with the resource coordinator regarding the availability of water locally). Twin Creek is accessible from Co. Rd. 300, but it is not a dependable source of water. Rock Creek is a dependable source of water that is accessible approximately 4 miles west of the monument from U. S. 30. A municipal drafting hydrant is located at the Kemmerer Golf Course. A key and \$100 deposit is required to use this hydrant, but fees can be waived for emergency fire use. Firefighters should contact park staff regarding seasonal water availability.
Control Line Locations	X		Any roadway or natural break can be used for fire operations. See map for known

## Appendix F: Pre-Attack Plan

			areas.
Natural Barriers	X		Any roadway or natural break can be used for fire operations. See map for known areas.
Safety Zones	X		Safety zones will be identified for all fires during the operational briefing. Safety zones within the Monument include the many barren and sparsely vegetated areas scattered though the shrub vegetation. Parking lot at the Visitor Center would also suffice.
Flight Routes/Restrictions	X		All flights will follow DO and RM 60 standards. Personnel will only fly in OAS carded aircraft with OAS approved pilots. Flight hazards are primarily electrical lines in and out of the area. High power lines are located approx 9 miles north of the VC and approx 10 east and south near Kemmerer/Diamondville.
Staging Area Locations	X		Staging areas would include public parking lots at any of the developed areas (Quarry trail, Visitor Center, or the maintenance area).
Helispot/Helibase Locations	X		Helispots within the park would be identified per incident. Any pre identified?
<b>Logistics</b>			
ICP Location	X		ICP should be located near power and utilities if possible. A location to consider would be the cache/maintenance area within the park.
Roads/Trails with Limitations	X		All roads and trails can be considered for fire operations either for access or firelines.
Utilities	X		A radio repeater station is located on Cundick Ridge in the SW corner of Section 24. Power, water, and telephone lines in the park are buried.
Propane tanks	X		Firefighters should be aware that there is 3000 gal propane tank behind the NW corner of the Maintenance Shop, and a 1000 gal propane tank several dozen yards north of the Visitor Center.
Medical Facilities	X		The closest medical facilities are: South Lincoln Medical Center (307-877-4401). The closest burn center is University of Utah Intermountain Burn Center 50 N. Medical Drive Salt Lake City, Utah, 84132 (801) 581-2700. An EMS ambulance service and helicopter ambulance service to Salt Lake City is also available. To get emergency ambulance service call the Lincoln County Dispatch (877-3971) or call 911.
Stores/Restaurants/Services	X		<p>Jubilee Supermarket, 620 Pine Ave., Kemmerer, 307-877-3698  Arctic Circle 315 Hwy 30 &amp; 189, Diamondville, (need #)  Bootlegger's 817 S. Main Kemmerer, 828-3067;  The Busy Bee 919 Pine Ave. Kemmerer, 877-6820  Hams Fork Grill, 307 US Hwy 189, Kemmerer, 877-8848;  Kountry Kafe &amp; Main St. Coffee, 801 S. Main, Kemmerer, 877-5758;  Pizza Hut, 335 Hwy 30 &amp; 189, Diamondville, 877-6969;  Polar King N. U.S. 189, Kemmerer, 877-9448;  Subway, 37 U.S 30 &amp; 189, Diamondville, 877-6685;  Scounchy Moose Pizza, Hwy 233, Frontier, 877-4233;  Taco Time, 1121 Pine Ave. Kemmerer, 877-9688.</p> <p>Currently, Fossil Butte does not maintain Bulk Purchase Agreements with local food services. Most, but not all, local restaurants accept government cards.</p>

## Appendix F: Pre-Attack Plan

			The Rawlins Dispatch Ctr maintains a Service & Supply Plan
Rental Equipment Sources	X		Rawlins Dispatch Center will maintain a Service & Supply Plan along with all current interagency Emergency Equipment Rental Agreements (EERA's).
Construction Contractors	X		
Sanitary Facilities	X		
Law Enforcement/Fire Departments	X		FOBU law enforcement personnel will be used primarily during fire operations with additional resources requested through ?BTNF/BLM/GRTE? Lincoln Co. Sheriff? What jurisdiction issues are there? The Kemmerer volunteer fire department will be requested as needed for assistance with wildland fire.
Communications (availability) Radio	X		The monument uses two radio communications frequencies: Channel 1 at 169.400, and Channel 2 (which connects to a repeater) at 166.875. Park radios are analog (not digital). Two units are programmed to scan BLM channels, USFS Bridger-Teton channels, and Lincoln County Dispatch. All dispatch operations will be communicated through Rawlins Interagency Dispatch on the BLM primary command frequency.
Telephone	X		Cell phone coverage is currently unreliable. Telephone (analog) phone ports would be available at either park HQ or the Maintenance Building.
Internet/Data network	X		Data ports with internet connectivity can be made available at either the park HQ or Maint bldg.
Maintenance Facilities	X		There is one maintenance facility located in the SW corner of the park. There are two indoor bays sufficient for 4-wheel-drive pickup trucks. There are several flammable materials storage cabinets, and an herbicide storage cabinet at the maintenance facility. In addition to the facility there is a ware yard where fencing supplies, a 400 gal. potable water trailer, and miscellaneous construction materials and equipment are stored.
Sanitary Landfills			There are no sanitary landfills located within FOBU.
<b>Planning</b>			
Park Base Map	X		<b>See attached map. Need to make these maps.</b>
Area Topographic Maps	X		<b>See attached map.</b>
Infrared Imagery	X		Infrared imagery will be ordered as necessary on large fires to aid in fire suppression.
Vegetation/Fuel Maps	X		A vegetation map can be found is enclosed.
Hazard Maps (ground and aerial)		X	The Salt Lake City Sectional Aerial nautical map shows ground hazards for the area. A copy will be available at the Kemmerer Municipal Airport, and at the Visitor Center
Special Visitor Use Areas			No special visitor use areas identified.
Land Ownership Status	X		All areas within FOBU are owned by the NPS.
Archeological/Cultural Resource Maps	X		A map of archeological/resource is housed in the Chief Ranger's Office.
Sensitive Plant Area Maps		X	Sensitive plants identified and mapped, included

## Appendix G - Five-Year Project Plan

<b><u>Project Name</u></b>	<b><u>Treatment</u></b>	<b><u>Acres</u></b>	<b><u>Scheduled<sup>1</sup></u></b>
Rock Creek (BLM/NPS)	RX fire (broadcast)	1,595	Year 2
Aspen <sup>2</sup>	RX fire (broadcast)	50	Year 3
Aspen	RX fire (broadcast)	50	Year 5
<b>Total RX fire</b>		<b>1,895</b>	
Picnic Area	Mechanical <sup>3</sup>	15	Year 3
Visitor Center	Mechanical	20	Year 3
Haddenham Cabin	Mechanical	10	Year 2
<b>Total Mechanical</b>		<b>45</b>	

<sup>1</sup> Approximate years following approval of the Fire Management Plan. Upon approval Appendix H will be updated annually to reflect current and out-year planning for the current 5-year period with scheduled timeframes established for each project.

<sup>2</sup> A total of 300 acres are proposed for burning with individual burn blocks about 50 acres. Burning would occur every other year beginning in about Year 3 after approval of the Fire Management Plan, dependent upon successfully meeting objectives in previous treatments.

<sup>3</sup> Mechanical treatments would be used to clear vegetation away from structures, cultural resources, and other high value resources to reduce spread potential and increase defensible space. Mechanical reduction of hazard fuels would use methods such as mowing grass, chopping shrubs, thinning woodlands, trimming ladder fuels, and removal of harvested biomass. Pile burning may occur following mechanical treatments.

## **Appendix H – Interpark Agreement**

### **INTERPARK AGREEMENT between Grand Teton National Park and Fossil Butte National Monument**

#### **Article I: Background and Objectives**

**A.** This agreement is made and entered into by and between Grand Teton National Park and Fossil Butte National Monument.

**B.** The purpose of this agreement is to define the mutual responsibilities of Grand Teton National Park Fire Management Office and Fossil Butte National Monument staff, in terms of wildland fire, prescribed fire, and aviation management activities.

#### **Article II: Statement of Work**

The duties of Grand Teton National Park Fire Management Office will include providing, as requested and required, professional and technical support to assure consistency of application of national, regional and local policy, for the fire management program in the Wyoming Area Parks that include; Grand Teton National Park, Fossil Butte National Monument, Fort Laramie National Historic Site, and Bighorn Canyon National Recreation Area. The performance of these responsibilities will be based on an annual work plan developed and coordinated between the units.

**A.** Responsibilities of Grand Teton National Park include:

1. Assists in development, coordination, and implementation of prevention, preparedness, suppression, prescribed fire, fire effects monitoring, and aviation programs through regular communication, site visits, program reviews, inspections, and training.
2. Coordinates, submits, and tracks expenditures for the FIREPRO budget including preparedness, program management, prescribed fire, fuels management, training, and capital equipment.
3. Assists with the development and establishment of required fire and aviation management plans, guidelines and procedures.
4. Assists in coordination of reports, correspondence, plans, guidelines, and other documents as related to fire and aviation management.
5. Coordinates and conducts fire and aviation related training necessary to meet wildland fire management needs of the unit and interagency cooperators according to approved national, regional and local plans and guidelines. Assists in the identification of qualified personnel for developmental positions and issues performance task books.
6. Manages the fire qualification, training records, and fire reports in the Interagency and National Park Service Wildland Fire Computer System . Issues red cards.
7. Represents the unit at meetings, conferences, seminars, and other functions as requested and required. Communicates regularly on issues and concerns.
8. Coordinates the National Park Services role in the interagency fire community through development of interagency agreements, action plans, and guidelines necessary to carry out fire management activities.

**B.** Responsibilities of Fossil Butte National Monument include:

1. Identifies a fire coordinator to manage the fire and aviation program of the unit.

## **Appendix H – Interpark Agreement**

2. Manages the daily fire and aviation operations according to established plans, procedures and guidelines.
3. Requests assistance as necessary and coordinates fire program management activities with the Fire Management Officer at Grand Teton National Park.
4. Submits FIREPRO budget requests, personnel file updates, incident qualification records, physical fitness scores, individual fire reports, and situation reports to the Fire Management Officer at Grand Teton National Park according to established deadlines.
5. Notifies the Grand Teton National Park Fire Management Officer as soon as practical of any fire occurrences, support actions, fire restrictions, or closures.
6. Participates in the interagency fire management programs according to need, availability, and qualifications of personnel and resources.

### **Article III: Term of the Agreement**

- A. The term of this agreement is five years from the date the agreement is signed by both parties. The agreement may be reviewed on a yearly basis.
- B. The agreement may be modified by amendment or renegotiated at any time at the initiation of either party. Any such changes must be mutually agreed upon in writing and approved by the respective Superintendents.

### **Article IV: Funding**

- A. Funding for salary, travel, and other program management activities may be available through FIREPRO accounts as needs arise. FIREPRO base and support funds are reflected and allocated through the annual budget submission process.

### **Article V: Payment**

Not Applicable

### **Article VI: Reports**

- A. Documentation to substantiate expenditures, trip reports, situation reports, and other pertinent documents will be provided as requested in a reasonable period of time.

### **Article VII. Key Officials**

- A. The principal contacts for this agreement are:

Lisa Elenz  
Fire Management Officer  
Grand Teton National Park  
P.O. Box 170  
Moose, Wyoming 83012  
(307) 739-3310

Dave McGinnis  
Superintendent  
Fossil Butte National Monument  
P.O. Box 592  
Kemmerer, Wyoming 83101  
(307) 877-4455

### **Article VIII: Property Management and Disposition**

Not Applicable

## Appendix H – Interpark Agreement

### Article IX: Prior Approval

Not Applicable

### Article X: Termination

A. Either party(s), in writing with thirty days notice, may terminate this agreement in whole, or in part, at any time before the date of expiration.

### Article XI: Authorizing Signatures

Grand Teton National Park and Fossil Butte National Monument agree to the provisions of this agreement as indicated by their duly authorized officers.

\_\_\_\_\_  
Grand Teton National Park  
Superintendent

\_\_\_\_\_  
Date

\_\_\_\_\_  
Fossil Butte National Monument  
Superintendent

\_\_\_\_\_  
Date

## **APPENDIX I – Agreements and Annual Operating Plans**

Interagency Agreement for Fire Management, NPS Agreement No. F0001030011  
Insert

Interagency Cooperative Fire Management Agreement, Agreement No. CA-H-1248-02-003 (WY  
State Forestry, BLM-WY, NPS-IMR, USFS-R2/R4, FWS-MPR, BIA-RMR)  
Insert

Rawlins Dispatch Center Annual Operating Plan  
Insert

## APPENDIX J – Interagency Contacts

Contact	Function	Work Phone	Home/Cell Phone
Rawlins Interagency Dispatch Center Michael Larsen, Center Manager	Communications Center	1-800-295-9953 307-328-4393	
Dave McGinnis	Superintendent, Fossil Butte NM	307-877-4455	
Vacant	Chief Ranger (Interpretation, Resource Management, and Protection), Fossil Butte NM	307-877-4455	
Clayton Kyte	Resource Management Specialist	307-877-4455	
Marcia Fagnant	Interpretive Specialist Fossil Butte NM	307-877-4455	
	South Lincoln County Fire District, Kemmerer		
Kelly Hoffman	Lincoln County Fire Warden, Cokeville	307-279-3625	
Sherrill King	BLM Wyoming Western Zone, FMO, Rock Springs	307-352-0320	
Kurt Strom	BLM Wyoming Western Zone, Fuels Specialist, Rock Springs	307-352-0263	
Dana Stone	WY State Dept of Forestry, District Forester, Lyman Dist #4	307-787-6148	307-631-2592 c
Candi Eighme	USDA FS Bridger-Teton NF, West Zone FMO, Kemmerer	307-877-4415-x5117	307-877-8857 307-727-7175 c
Bart Singley	USDA FS Bridger-Teton NF, West Zone AFMO, Afton	307-885-1335	307-413-2140 c
West Zone BTF Duty Officer	On call through fire season	Contact TIDC 307-739-3631	24 hours a day during fire season
Vacant	USDA FS Bridger-Teton NF, West Zone Fuels Specialist, Kemmerer	307-877-4415 x5116	
Lisa Elenz	Grand Teton National Park Area Park FMO, Moose	307-739-3310	307-733-3365 307-690-0058 c
Chip Collins	Grand Teton National Park AFMO, Moose	307-739-3312	307-734-3928 307-690-4400 c
GTP Duty Officer	On call through fire season	Contact TIDC 307-739-3631	24 hours a day during fire season
Fauzia Massey	Grand Teton National Park Fire Management Program Asst., Moose	307-739-3311	307-543-2887
Teton Interagency Dispatch Deb Frauson, Center Manager	Communications Center (GTP, BTF, NER), Moose	307-739-3631	24 hours/day during fire season

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**Appropriate Management Response:** Specific actions taken in response to a wildland fire to implement protection and fire use objectives. This term is a new term that does not replace any previously used term.

**Control Line** – Removal of burnable vegetation through the use of tools or machinery to check or stop fire spread.

**Expected Weather Conditions:** Those weather conditions indicated as common, likely, or highly probable based on current and expected trends and their comparison to historical weather records. These are the most probable weather conditions for this location and time. These conditions are used in making fire behavior forecasts for different scenarios (one necessary scenario involves fire behavior prediction under “expected weather conditions”).

**Experienced Severe Weather Conditions:** Those weather conditions that occur infrequently, but have been experienced on the fire site area during the period of weather records. For example, rare event weather conditions that significantly influence fires may have occurred only once, but their record can be used to establish a baseline for a worst-case scenario. These are the most severe conditions that can be expected. These conditions are used in making fire behavior forecasts for different scenarios (one necessary scenario involves fire behavior prediction under “experienced severe weather conditions”).

**Desired Future Conditions** – Description of natural, cultural, and social conditions and opportunities that are desirable now and in the future, considering current conditions and limitations - both management limitations (law, directions, policies), and physical and biological limitations.

**Fire Management Plan (FMP):** A strategic plan that defines a program to manage wildland and prescribed fires and documents the Fire Management Program in the approved land use plan. The plan is supplemented by operational plans such as preparedness plans, preplanned dispatch plans, prescribed fire plans, and prevention plans.

**Fire Management Unit (FMU):** Any land management area definable by objectives, topographic features, access, values to be protected, political boundaries, fuel types, or major fire regimes, etc., that sets it apart from management characteristics of an adjacent unit. FMU's are delineated in Fire Management Plans (FMP). These units may have dominant management objectives and pre-selected strategies assigned to accomplish these objectives.

**Fire Use:** The combination of wildland fire use and prescribed fire application to meet resource objectives.

**Hazard Fuels** - Excessive live and/or dead fuel accumulations (either natural or created) having the potential for causing or carrying intense wildland fire (NPS RM-18, 2001).

**Holding Actions:** Planned actions required to achieve wildland and prescribed fire management objectives. These actions have specific implementation timeframes for fire use actions but can have less sensitive implementation demands for suppression actions. For wildland fires managed for resource benefits, an MMA may not be totally naturally defensible. Specific holding actions are developed to preclude fire from exceeding the MMA. For suppression actions, holding actions may be implemented to prohibit the fire from

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crossing containment boundaries. These actions may be implemented as firelines are established to limit the spread of fire.

**Initial Attack:** An aggressive suppression action consistent with firefighter and public safety and values to be protected.

**Management Action Points:** Either geographic points on the ground or specific points in time where an escalation or alteration of management actions is warranted. These points are defined, and the management actions to be taken are clearly described in an approved Wildland Fire Implementation Plan (WFIP) or Prescribed Fire Plan. Timely implementation of the actions when the fire reaches the action point is generally critical to the successful accomplishment of the objectives.

**Manual Treatment** - The use of hand-operated power tools and hand tools to cut, clear, or prune herbaceous and woody plants. Hand tools such as the handsaw, axe, shovel, rake, machete, and hand clippers as well as hand operated power tools such as chain saws, brush cutters, and mowers are used in manual treatments. Manual treatments may be considered stand-alone or be followed by burning.

**Mechanical Fuels Reduction (or treatment)** - Manipulation or removal of fuels to reduce the fire behavior and risk of loss to life/property that may include cutting, thinning, mowing, chipping, lopping, limbing or like applications. These treatments may be multi-season stand-alone, or multi-treatment.

**Minimum Impact Suppression Tactics (MIST)** - The application of strategies and tactics that effectively meet suppression, fire use, and resource objectives with the least environmental, cultural, and social impacts.

**Mitigation** - Actions taken to eliminate hazards or reduce their risk(s).

**Mitigation Measures** - Those on the ground activities that would serve to manage risk in all fire management actions and decrease potential impacts; check, direct, or delay the spread of fire; and minimize threats to life, property, or resources.

**Pre-attack Plan** – A comprehensive compilation of essential fire management information available to fire personnel, which would include command, operations, logistics, and planning functions.

**Preparedness** : Activities that lead to a safe, efficient, and cost effective fire management program in support of land resource management objectives through appropriate planning and coordination. This term replaces presuppression.

**Prescribed Fire:** Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements must be met, prior to ignition. This term replaces management ignited prescribed fire.

**Prescribed Fire Plan:** A plan required for each fire application ignited by managers. It must be prepared by qualified personnel and approved by the appropriate Agency Administrator prior to implementation. Each plan will follow specific agency direction and must include critical elements described in agency manuals. Formats for plan development vary among agencies, although content is the same.

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**Prescription:** Measurable criteria which define conditions under which a prescribed fire may be ignited, guide selection of appropriate management responses, and indicate other required actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social or legal considerations.

**Resources** – Things, items or concepts that hold specific value and qualities that people may draw from or enjoy, such as natural, cultural, social and socioeconomic resources. Natural and cultural resources are described by kind and type, e.g., soil, water, air, vegetation, wildlife, artifacts, historic structures, etc., whereas social resources may be described as solitude, dark skies, visitor experience, etc. Socioeconomic resources describe more the means available for use in conducting activities, such as people, equipment, materials, and money.

**Risk** - Chance of hazard or bad consequences; exposure to chance of injury or loss. Risk level is expressed in terms of hazard, probability and severity.

**Severity** - The expected consequence of an event in terms of degree of injury, property damage, or program impairment that could occur.

**Values** – Fort “resources” and beliefs pertaining to natural, cultural and social resources and their meaning to the ecosystem and the visitor’s experience. Values also refer to anything of value such as developments, in holdings, sensitive habitats, endangered species, wilderness, watersheds, nearby urban structures, management strategies, aesthetics, and adjacent land.

**Wildfire** - An unwanted wildland fire that management treats with suppression oriented tactics. All arson or accidental human caused fires are unwanted wildland fires. The determination to treat lighting-caused fires as unwanted wildland fires, and to suppress them, is made according to the start location in the fire management units and the associated decision matrix that evaluates time of season, fuel moisture, drought conditions, the national fire situation, and other seasonal indices and human life and safety factors. The Wildland and Prescribed Fire Management Policy Implementation Procedures and Reference Guide outlines the flowcharts that are utilized to determine the appropriate management response for a wildland fire.

**Wildland Fire:** Any non-structure fire, other than prescribed fire, that occurs in the wildland. This term encompasses fires previously called both wildfires and prescribed natural fire.

**Wildland Fire Implementation Plan (WFIP):** A progressively developed assessment and operational management plan that documents the analysis and selection of strategies and describes the appropriate management response for a wildland fire. A full WFIP consists of three stages. Different levels of completion may occur for differing management strategies (i.e., fires managed for resource benefits will have two to three stages of the WFIP completed, while some fires that receive a suppression response may only have a portion of State I completed).

**Wildland Fire Management Program:** The full range of activities and functions necessary for planning, preparedness, emergency suppression operations, and emergency rehabilitation of wildland fires, and prescribed fire operations, including non-activity fuels management to reduce risks to public safety and to restore and sustain ecosystem health.

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**Wildland Fire Situation Analysis (WFSA):** A decision-making process that evaluates alternative management strategies against selected safety, environmental, social, economic, political, and resource management objectives.

**Wildland Fire Suppression:** An appropriate management response to wildland fire that results in curtailment of fire spread and eliminates all identified threats from the particular fire. All wildland fire suppression activities provide for firefighter and public safety as the highest consideration, but minimize loss of resource values, economic expenditures, and/or the use of critical firefighting resources.

**Wildland Fuels** - Combustible materials that can be consumed by fire which includes naturally occurring live and dead vegetation.

**Wildland-Urban Interface (WUI)** - That line, area, or zone where structures and other human development meet or intermingles with undeveloped wildland or vegetative fuels.

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